

1 Differences in College Readiness Rates in Two School Years for 2 Students in Special Education

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7 **Abstract**

8 Examined in this study were the college readiness rates (i.e., reading, mathematics, and both
9 subjects) of students who received special education services in the 2012-2013 and 2013-2014
10 school years. Data from the 2012-2013 and 2013-2014 Texas Academic Progress Reports were
11 obtained and analyzed. Students who received special education services had a statistically
12 significantly higher reading college readiness rate in the 2013-2014 school year than in the
13 2012-2013 school year. Mathematics college readiness rates were statistically significantly
14 lower in the 2013-2014 school year than the 2012-2013 school year. The college readiness rates
15 for both subjects approached statistical significance and college readiness rates were lower in
16 the 2013-2014 school year. Of importance were the very, very low college readiness rates of
17 students who were enrolled in special education. Implications of these findings and
18 recommendations for future research are discussed.

19

20 **Index terms**— college readiness, reading, mathematics, both subjects, special education.

21 **1 I. Introduction**

22 According to the Texas Education Agency (2015b), 442,476 students received special education services in the 2014-
23 2015 school year. Students who receive special education services constitute 8.5% of the student population in the
24 state of Texas. The Individuals with Disabilities Education Act (2004) mandates that students with disabilities
25 be educated in the least restrictive environment and receive a free and appropriate education. Also stated was
26 the expectation that students with disabilities would become college ready and would enroll in postsecondary
27 education institutions.

28 Brand, Valent, and Danielson (2013) reported that students with disabilities are less likely than their peers
29 to graduate high school and pursue postsecondary education due in part to low expectations. Also noted was
30 that students with disabilities benefit from and are more prepared for college by learning the general curriculum
31 with accommodations (Brand et al., 2013; Wilson, Hoffman, & McLaughlin, 2009). School districts should utilize
32 the data they already collect to make decisions for effective learning for students with disabilities (Brand et al.,
33 2013).

34 The focus for students with disabilities has shifted from independent living and social skills to postsecondary
35 education to increase long term employment outcomes (Wilson et al., 2009). Adults with disabilities are 38%
36 less likely to be employed between the ages of 21 and 64 than are their nondisabled peers. The median monthly
37 income for adults with disabilities was just under 50% less than that of their nondisabled counterparts (Brault,
38 2012).

39 According to Madaus (2006), over 75% of people with a learning disability who obtained a postsecondary
40 education were employed full time. He also stated that the majority of people with learning disabilities earned a
41 salary commensurate with their peers who were nondisabled. Madaus (2006) discussed that 76.1% of people with
42 learning disabilities who were employed received healthcare benefits from their employers. As such, he contended
43 that the employment outcomes were more favorable for the adults with disabilities who attended a postsecondary

7 C) DEFINITION OF TERMS

44 institution than for those individuals who did not continue their education after high school. He also concluded
45 that the employment outcomes were similar for adults with learning disabilities and people without disabilities.

46 In a study conducted by Chandler, Slate, Moore, and Barnes (2014), college readiness rates for high school
47 graduates in Texas who were part of a special population were analyzed. They examined college readiness
48 rates from the 2006-2007 to the 2010-2011 school years for reading, mathematics, and both subjects. In their
49 study, reading college readiness rates for all students increased by almost 20%, whereas, scores for students
50 who received special education services only increased by over 2%. Mathematics college readiness rates for
51 students who received special education services did not increase over the 5year period. College readiness rates
52 for both subjects for all students increased by about 17%, but decreased slightly for students who received special
53 education services. Chandler et al. (2014) concluded that scores for all students, students who were economically
54 disadvantaged, and students who were Limited English Proficient had a greater increase in scores over the 5year
55 period than students who received special education services.

56 2 a) Statement of the Problem

57 The National Center for Education Statistics (2016b) reported that 59% of first time college students, who
58 attended full time, graduated within six years of beginning their degrees. The National Center for Education
59 Statistics also reported that 11% of students who attend college are students with disabilities. Students with
60 disabilities tend to be older independent students instead of students attending directly after high school (National
61 Center for Education Statistics, 2016a). In the 2011-2012 school year, 8.9% of the dependent student population
62 were students with disabilities. According to the Economic News Release Persons with a Disability: Labor Force
63 Characteristics Summary (2016), in 2015, 16.88% of adults age 25 years and older with disabilities complete a
64 bachelor's degree as compared to 35.49% of adults age 25 and older without disabilities. Of those adults with
65 disabilities who earned bachelor's degrees, 25.3% are employed. Adults without disabilities who have earned
66 bachelor's degrees are employed at a rate of 75.9%. Stated in the Economic News Release was that people with
67 disabilities were more likely to work in the service industry than were people without disabilities.

68 3 b) Significance of the Study

69 In the 2013-2014 school year, 23,654, or 7.8% of graduates received special education services in Texas (Texas
70 Education Agency, 2015b). Only a few research studies were located in which the college readiness rates of
71 students who received special education services were investigated. The college readiness rates of students who
72 received special education services were the focus of this investigation. Results from this investigation have
73 implications for school leaders and teachers. The findings of this investigation could provide educational leaders,
74 school administrators, and policy makers with data they could use to improve the success of students in special
75 education.

76 4 c) Purpose of the Study

77 The purpose of this study was to determine the degree to which differences might be present in the reading
78 college readiness rates of students who received special education services between the 2012-2013 and 2013-2014
79 school years. A second purpose was to ascertain the extent to which differences might exist in the mathematics
80 college readiness rates of students who received special education services between the 2012-2013 and 2013-2014
81 school years was examined. The third purpose was to determine the degree to which differences might be present
82 in the college readiness rates for both subjects for students who received special education services between the
83 2012-2013 and 2013-2014 school years.

84 5 d) Research Questions

85 The following research questions were investigated in this study:

86 6 b) Instrumentation and Procedures

87 Data from the Texas Academic Performance Reports for the 2012-2013 and 2013-2014 school years were obtained
88 from the Texas Education Agency. After the data were obtained and downloaded the files were imported to the
89 Statistical Package for Social Sciences (SPSS) software program. The files were then converted to a SPSS data
90 file and labels were given to the relevant data utilized in this investigation. Data were reported from the schools
91 to the Texas Education Agency, therefore minimal errors in the data are assumed to be present. For validity and
92 reliability information related to scores, readers are directed to the Texas Education Agency website.

93 7 c) Definition of Terms

94 The Texas Education Agency (2015a) in the Glossary of the 2014-2015 Texas Academic Performance Report,
95 defined college readiness as meeting or exceeding ready criteria on the TAKS exit level test, or the SAT, or the
96 ACT test. According to the United States Department of Education Individuals with Disabilities Education Act
97 (2004), special education is specifically designed instruction that meets the needs of students with disabilities.
98 Special education includes instruction in the classroom, physical education, travel training, vocational training,

99 and related services such as speech, occupational and physical therapy, reading, mathematics, and both
100 subjects for students receiving special education services in the 2012-2013 and 2013-2014 school years, checks
101 were conducted to determine the extent to which the data were normally distributed. An examination of the
102 standardized skewness coefficients (i.e., the skewness value divided by its standard error) and the standardized
103 kurtosis coefficients (i.e., the kurtosis value divided by its standard error) revealed substantial deviations from
104 normality. All four standardized coefficients for each research question were far outside the bounds of normality
105 of +/-3 (Onwuegbuzie & Daniel, 2002).

106 The data for college readiness rates in reading, mathematics, and both subjects for students who received
107 special education services were not normally distributed, therefore a nonparametric statistical procedure had to
108 be utilized (Slate & Rojas-LeBouef, 2011). Accordingly, a nonparametric Wilcoxon's dependent samples t-test
109 was an appropriate inferential statistical procedure to calculate when the variables (i.e., reading, mathematics,
110 and both subjects) are related (Slate & Rojas-LeBouef, 2011). In this investigation, college readiness in reading,
111 mathematics, and both subjects were present for the same group of students receiving special education services
112 for the 2012-2013 and 2013-2014 school years and were at the interval/ ratio level of measurement.

113 For the first research question, the Wilcoxon's dependent samples t-test yielded a statistically significant
114 difference in reading college readiness for students who received special education services between the 2012-2013
115 and 2013-2014 school years, $z = 4.06$, $p < .001$. The effect size associated with this difference, Cohen's d , was
116 0.15, small (Cohen, 1988). Students who received special education services had statistically significantly higher
117 college readiness rates, 2.20% higher, in reading in the 2013-2014 school year than the 2012-2013 school year. The
118 reader is directed to Table 1 for the descriptive statistics for college readiness rates in reading for students who
119 were enrolled in special education. Regarding the second research question, the Wilcoxon's dependent samples
120 t-test produced a statistically significant difference in mathematics college readiness for students who received
121 special education services between the 2012-2013 and 2013-2014 school years, $z = -6.45$, $p < .001$. The effect size
122 associated with this difference, Cohen's d , was 0.26, a small effect size (Cohen, 1988). Students who received
123 special education services had a statistically significantly lower college readiness mathematics rate, 4.18% lower,
124 in the 2013-2014 school year than in the 2012-2013 school year. Presented in Table 2 are the descriptive statistics
125 for college readiness rates in mathematics for students who received special education services. In regard to the
126 third research question, the Wilcoxon's dependent samples t-test yielded a result that approached conventional,
127 but did not reach the conventional level of statistical significance in both subjects college readiness for students
128 who received special education services between the 2012-2013 and 2013-2014 school years, $z = -1.79$, $p = .07$. The
129 effect size associated with this difference, Cohen's d , was 0.08, which was a less than small effect size (Cohen,
130 1988). Students who received special education services had a lower college readiness rate in both subjects,
131 0.86% lower, in the 2013-2014 school year than in the 2012-2013 school year. Readers are referred to Table 3 for
132 the descriptive statistics for college readiness rates in both subjects for students who received special education
133 services.

134 **8 IV. Discussion**

135 In this investigation, differences in college readiness rates between the 2012-2013 and 2013-2104 school years
136 for students who received special education services were addressed. The college readiness areas of reading,
137 mathematics, and both subjects were examined. Statistically significant results were present for both reading
138 and mathematics. The results for reading reflected an increase in the percentage of college ready students from
139 the 2012-2013 school year to the 2013-2014 school year. These results were similar to the results obtained by
140 Chandler et al. (2014) and by Holden and Slate (2016). The percentage of students who were college ready in the
141 area of mathematics decreased between the two years. The differences in college readiness rates for mathematics
142 were greater than the results reported by Chandler et al. (2014). Similar to the results of Chandler et al. ((143
143 ??014), college readiness rates in both subjects between the 2012-2013 and 2013-2014 school years decreased
144 slightly.

145 Though the college readiness rates in reading increased between the two school years, the increase was at a
146 low rate and attention should be paid to the decrease in students who were college ready in mathematics. Due
147 to the decrease in mathematics and the slight increase in reading college readiness the percentage of students
148 who were college ready in both subjects slightly decreased over the two years. Minimal growth was present in
149 the area of college readiness for students who receive special education services.

150 **9 V. Conclusion**

151 The Individuals with Disabilities Education Act (2004) outlined the need for students with disabilities to pursue
152 postsecondary education options and increase college readiness. According to the Texas Education Agency (2015),
153 the number of students who received special education services increased by approximately 7,600 students between
154 the 2013-2014 and 2014-2015 school years. The percentage of students who were college ready was 18.15%, 17.97%,
155 and 7.47% in reading, mathematics, and both subjects respectively. These numbers are concerning because the
156 majority of students who receive special education services are exiting high school without the academic skills
157 necessary to enter a postsecondary institution. Further research needs be conducted on special education services
158 and increasing college readiness in students who receive those services as well as investigating the barriers to

9 V. CONCLUSION

159 college readiness for students with disabilities. Further research is needed in the more current assessments utilized for college readiness.

1

Education Services in the 2012-2013 and 2013-2014

School Years

School Year

2012-2013

2013-2014

	n	of	M	SD
schools				
2012-2013	626		15.95	14.64
2013-2014	626		18.15	14.93

Figure 1: Table 1 :

2

Readiness Rates for Students Who Received Special Education Services in the 2012-2013 and 2013-2014

School Years

School Year

2012-2013

2013-2014

	n	of	M	SD
schools				
2012-2013	586		22.15	17.08
2013-2014	586		17.97	15.20

Figure 2: Table 2 :

3

Special Education Services in the 2012-2013 and 2013-2014 School Years

School Year

2012-2013

2013-2014

	n	of	M	SD
schools				
2012-2013	573		8.33	11.07
2013-2014	573		7.47	10.21

Figure 3: Table 3 :

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