

Categorical Differences in Scores of Students with Disabilities on the Florida Comprehensive Assessment Test

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Abstract: Students with disabilities participate in statewide assessments as required by federal law, and the success of schools is contingent on this group making Adequate Yearly Progress. This report on research includes the findings of differences between disability categories scoring proficient on the FCAT from the years 2005 through 2010.

The reauthorization of the Elementary and Secondary Education Act (ESEA) known as The No Child Left Behind Act of 2001 (NCLB) (P. L. 107 – 110) was signed into law to increase accountability and narrow achievement gaps. One provision of NCLB was that all students must be proficient in reading and mathematics by 2014. Additionally, students in subgroups in each district and state must make Adequate Yearly Progress (AYP) as measured by statewide assessments. Students with disabilities constitute one of those AYP subgroups, and all students with disabilities, regardless of their disability, are grouped into one category for reporting purposes (Moore, 2005). Ascertaining categorical differences could inform educational decisions, policy, and best practices resulting in higher student achievement.

Students with disabilities have been participating in statewide assessments as required by the 1997 amendment to the Individuals with Disabilities Education Act (IDEA; Yell, Katsiyannis, & Hazelkorn, 2007). Although NCLB requires students with disabilities to participate in statewide assessments, 1% of students with the most significant cognitive disabilities may participate in an alternate assessment. Additionally, states were later permitted to use modified achievement assessments for 2% of students with disabilities (Cho & Kingston, 2011). However, Florida only permits 1% of students with disabilities to participate in the alternate assessment. All others must take the statewide-standardized assessment known as the Florida Comprehensive Assessment Test (FCAT).

The purpose of this study was to determine if differences existed between disability categories on the percentage of 4th and 5th grade students with disabilities scoring at the proficient level on the FCAT from the years 2005 through 2010. The research questions guiding this study were:

R₁: To what extent do disability categorical differences exist in the reading, mathematics, and writing FCAT scores of 4th grade students with disabilities in the years 2005 through 2010?

R₂: To what extent do disability categorical differences exist in the reading, mathematics, and science FCAT scores of 5th grade students with disabilities in the years 2005 through 2010? (Trexler, 2013, “Research Questions,” para. 1)

Review of the Literature

Students with disabilities have struggled for many years to be included in the public school system. Opportunities for students with disabilities started to develop gradually in the wake of the civil rights movement, which itself had progressed slowly from *Plessy v. Ferguson*

(1896) to *Brown v. Board of Education* (1954). Many students with disabilities either were denied access or received an education inappropriate for their needs.

In the early 1970s, only 20% of students with disabilities were receiving an education. A 1974 report indicated that 1.7 million students with disabilities were totally excluded from public education, and another 3 million students with disabilities did not receive an education appropriate to the individuals' needs (Katsiyannis, Yell, & Bradley, 2001). Two landmark cases in the early seventies that undertook this issue were *Pennsylvania Association for Retarded Children (PARC) v. Commonwealth* (1971) and *Mills v. Board of Education of District of Columbia* (1972) (Alexander & Alexander, 2009; Katsiyannis et al., 2001). These cases resulted in students with disabilities no longer being excluded from public education: first, for students with intellectual disabilities in the *PARC* case and then all students with disabilities in the *Mills* case (Alexander & Alexander, 2009).

Many legal cases and support from advocates further accentuated the need for students with disabilities to access public education with increased rights. The Education for All Handicapped Children Act (EAHCA) of 1975 was the first law to provide numerous services to students with disabilities. The most significant of these rights was for students with disabilities to receive a free and appropriate education and to be educated in the least restrictive environment to the maximum extent possible with their non-disabled peers. Additionally, students would receive an Individualized Education Plan (IEP) and protection for parents and students through due process (Alexander & Alexander, 2009; Katsiyannis et al., 2001; Keogh, 2007).

The Education for All Handicapped Children Act was renamed the Individuals with Disabilities Education Act (IDEA) in 1990. In 1997, an amendment to IDEA required students with disabilities be held to the same standard as the general population and participate in statewide assessments (Yell et al., 2007). Several years later, the No Child Left Behind Act of 2001 was signed into law to increase school accountability and narrow achievement gaps. Students with disabilities would be one group of students who would be required to make AYP in all schools, districts, and states. Additionally, all students would be required to be proficient in mathematics and reading by the year 2014 (Turnbull, 2009).

Failing to make AYP has serious consequences and could eventually result in schools being in need of corrective action and possible restructuring (Floch, Taylor, & Thomsen, 2006). Although the original intent of NCLB is indeed praiseworthy, there have been unintended consequences due to the pressure and effects of not meeting AYP. Several criticisms of NCLB include lack of resources (Shirvani, 2009), loss of instructional time (Bejoian & Reid, 2005; Berliner, 2009), teaching to the test (Amrein-Beardsley, 2009), no consideration of home environment (Floch et al., 2006; Shirvani, 2009), and the narrowing of the curriculum by increasing the focus on tested subjects (Bejoian & Reid, 2005; Berliner, 2009). The 100% proficiency requirement of NCLB has been reported as being unrealistic (Linn, 2008) and statistically impossible (Maleyko & Gawlik, 2011; Rose, 2004). Linn (2003) reported that if a straight-line trajectory were used, "it would take 57 years for the percentage for grade 4 to reach 100. For grade 8 it would take 61 years and for grade 12 it would take 166 years" (p. 6).

Although students with disabilities are required to participate in statewide assessments, they are permitted to use approved accommodations to "level the playing field" which are decided on by the IEP team. In Florida, accommodations are permitted in the areas of presentation, scheduling, responding, setting, and assistive technology (Florida Department of Education, FDOE, 2010). However, even with accommodations, students with disabilities lag behind their general education peers. Darling-Hammond (2007) suggested that taking a grade

level test is in conflict with accommodation provisions such as testing on one's instructional level and the intent of an IEP based on individual needs. The effect of schools not making AYP due to the special education population could have negative outcomes, such as students with disabilities being further stigmatized (Bejoian & Reid, 2005) and experiencing increased dropout rates (Allbritten, Mainzer, & Ziegler, 2004). Accordingly, Rose (2004) reported that students with disabilities would shoulder the blame for schools not making AYP. With the year 2014 approaching rapidly, many if not all schools would be considered failing, which has resulted in an outcry for changes to NCLB (Linn, 2005; Packer, 2007; Welner, 2005). "Otherwise, NCLB will remain an unfunded, unfair, and unattainable mandate that largely labels and punishes schools and denies all children their basic right to a great public school" (Packer, 2007, p. 269).

In 2011, several years after NCLB was to be reauthorized, President Obama announced a plan, which would provide relief from 10 provisions of NCLB, including the AYP requirement and the 100% proficiency requirement. States could apply for these flexibility waivers as long as certain criteria were met (U. S. DOE, 2011a; U. S. DOE, 2011b). Florida was one of the first states to apply for and obtain the flexibility waiver in February 2012 (U.S. DOE, 2012).

Although Florida was given relief from the AYP and the 100% proficiency requirement by 2014, Florida's option for setting goals is to increase the number of students scoring at the proficient range while decreasing the number of students not scoring at the proficient level by 50% by the 2016-2017 school year. Florida also stated that it would continue to use letter grades for schools as well. The performance of students with disabilities on the FCAT is included in these calculations. As stated earlier, students with disabilities are reported as one whole group regardless of the separate categories (FDOE, 2012). Additionally, the Student Success Act requires that 50% of a teacher's evaluation be based on students' performance based on statewide assessments. Subsequently, a Value Added Model was developed that incorporates students with disabilities as a consideration in student characteristics (FDOE, n.d.a).

Students with disabilities should be included in accountability systems; however, high stakes testing has resulted in negative consequences. Students with disabilities continue to score well below their general education counterparts and their scores are calculated together as one whole group for reporting, calculating school grades, and most recently, teacher evaluations. Conversely, if the student with disabilities group was disaggregated and analyzed for categorical differences, the information gleaned would fill a gap in the research and inform educational decisions and policy, best practices, instructional grouping, professional development, interventions, brain research, and guide instruction, therefore resulting in increased achievement for students with disabilities.

Method

This was a quantitative, *ex post facto*, descriptive research design. FCAT scores are available on the Florida DOE website with many options for retrieval. This study used the percentage of students with disabilities scoring at the proficient level in each of the following categories: Autism spectrum disorder, deaf/hard of hearing, emotional/behavioral disability, intellectual disability, hospital/homebound, language impaired, orthopedically impaired, other health impaired, specific learning disabled, speech impaired, traumatic brain injury, and visually impaired. Scores for students with dual sensory disabilities were not reported due to subgroup size and were therefore not included in this study. Additionally, the percentage for the general education population was included to use as a reference (Trexler, 2013).

Participants

The FCAT scores are public information; therefore, no human participants were involved in this study. Fourth grade reading, mathematics, and writing, and 5th grade reading, mathematics, and science were included covering 6 years, 2005 through 2010 (Trexler, 2013).

Data Collection and Analysis

The percentage of students scoring at the proficient level was retrieved from the FDOE website and entered into SPSS statistical software. Percentages were input from 4th and 5th grades in all subject areas and disability categories for the years 2005 through 2010. In order to isolate the general education population from the gifted and special education populations, several calculations were used. Scores were retrieved from the general education population with the gifted population included, and the isolated gifted population. Through a series of calculations, the gifted population was extracted from the total population leaving just the general education population. Means and standard deviations were calculated for each category for the 6-year period (Trexler, 2013).

Results

This research was conducted to identify if there were differences between disability categories in the percentage of 4th and 5th grade students scoring at the proficient level on the FCAT for the years 2005 through 2010. There was no need for statistical significance testing because these were true scores from the total tested population (Trexler, 2013).

The data show differences between disability categories in each grade and subject. The speech only population had a higher number of students scoring at the proficient level than the other categories including the general education population consistently except 4th grade writing. Additionally, the intellectually disabled population had the lowest percentage of students scoring at the proficient level, and excluding writing, the highest percentage was 3.5% (Trexler, 2013).

Reading

In reading, the disability categories were in the same rank order for both grades (See Table 1).

Table 1. *Fourth and Fifth Grade Reading Percentage Proficient*

Category	Fourth Grade		Fifth Grade	
	μ	σ	μ	σ
Speech	77	2.83	75	2.45
General ed.	73	3.13	72	2.58
Vision	61	19.81	61	2.48
Hosp/home	53	6.28	53	2.16
Ortho	47	5.42	49	3.83
OHI	40	3.27	38	2.42
Autism	37	6.65	38	7.6
EBD	35	3.95	35	2.43
Hearing	34	6.79	35	6.11
SLD	32	2.88	33	2.48
Language	31	4.16	28	4.58

TBI	29	4.92	20	7.47
ID	3	0.89	3	1.1

Note. μ rounded to the nearest whole number, σ rounded to the nearest hundred thousandths.

The highest standard deviation in reading was in the 4th grade vision category ($\sigma = 19.81$). It appears this was the result of 10% more students scoring at the proficient level in 2009, increasing the range from 13 to 23. The years with the highest number of students scoring at the proficient level for 4th grade reading were 2009 and 2010, and the lowest year was 2006. For 5th grade, the highest percentages were in the years 2007 and 2010 with the lowest in 2005 and 2006 (Trexler, 2013). Graphs representing yearly means for each category and grade are displayed in the Appendix (Figure 1 and Figure 2).

Mathematics

In mathematics, each category had approximately 9% fewer students score at the proficient level in 5th grade than in the 4th grade. Again, speech had the highest percentage mean in both 4th ($\mu=77.5$) and 5th grade ($\mu=67$) and intellectual disabilities had the lowest percentages (4th: $\mu=3.5$; 5th: $\mu=2$). The specific learning disability category, which makes up nearly 50% of the special education population in the 4th and 5th grades, had significantly lower percentages score at the proficient level than their general education peers did with a difference of over 30%. However, in contrast to reading, the percentages of 4th grade students scoring at the proficient level increased gradually from 2005 to 2010 (Trexler, 2013).

Writing

Fourth grade writing prompt scores were used to generate yearly means for each category. Percentages of students scoring at a level three or higher were considered proficient for the purposed of this study. Narrative and expository prompt scores were calculated together for each category for one overall mean. All categories had increased percentages of students scoring at the proficient level than in the other subjects. This is the only subject where speech ($\mu=92.33$) had fewer students at the proficient level than the general education population ($\mu=93.83$). In the intellectually disabled category, a higher percentage scored at the proficient level than in the other grades and subjects ($\mu=38.17$), but was still 20% from the next category (Autism: $\mu=58.17$) and well below the general education population. Notably, in the intellectually disabled category (trainable mentally handicapped), 30% of the narrative writing prompts were reported as being unscorable and in the educable mentally handicapped category, 14%. The expository group had fewer than 10 students so these results were not reported. In 2008, FDOE no longer reported unscorable prompts, however, by calculating the other levels and dividing by the total number of students, the number of unscorable prompts could still be estimated (Trexler, 2013).

Science

The majority of categories increased the number of students scoring at the proficient level gradually from 2005 to 2010. Speech had the highest percentage ($\mu=48$) with intellectual disabilities the lowest ($\mu=1$). The specific learning disability category had a 6-year mean of 19% (Trexler, 2013).

Summary

In each grade and subject, categorical differences existed between disability categories. Additionally, the majority of categories, with the exception of speech and vision, had much fewer students score at the proficient level than the general education population. Additionally, 6 year means were calculated in all categories and subjects. The total percentages may have

differed within categories across the subjects; however, the overall distribution was the same (see Figure 3; Trexler, 2013).

Discussion

Students with disabilities continue to lag behind their general education peers on the FCAT with little progress being made. Categorical differences exist between disability categories with the highest percentage of students scoring at the proficient level from the speech category and the lowest being the intellectually disabled category. Students with the most significant cognitive disabilities may participate in an alternate assessment. Although, the U. S. DOE permitted states to develop a modified assessment for an additional 2% of students to take a modified assessment, Florida only permits the 1% stipulation with the remainder of those students taking the FCAT on grade level. The intellectually disabled population makes up 2% of the special education population in the 4th and 5th grades. If these students were permitted to participate in a more appropriate modified assessment, a more accurate measurement of learning could be attained. This could also result in a gain in instructional time for these students by not being engaged in the negative consequences discussed earlier. Additionally, these means and standard deviations suggest that students with disabilities and their general education peers are unlikely to meet the 2016 flexibility waiver goals (Trexler, 2013).

Many have suggested more appropriate means for measuring student growth such as pre-tests and post-tests (Allbritten et al., 2004), testing on instructional levels and IEP goals (Quigney, 2008), and site visits (Smyth, 2008). Additionally, the costs of these tests are very high. For the 2010-2011 school year, the cost per student test was \$30.87 for the 2010-2011 school year in Florida resulting in an expenditure of nearly 50 million dollars (FDOE, n.d.b). These findings could provide justification for more appropriate means of measurement for some students with disabilities.

Implications

These findings should inform educational policy and decisions such as the newly developed teacher evaluations including the Value Added Model in the state of Florida. This research adds to the justification for a modified assessment in the state as well. Continued research could replicate this study in higher grades and in other states or could seek to investigate the factors that lead to higher achievement in both reading and mathematics in the speech category such as early intervention or small group instruction. Additionally, research that focuses on instructional techniques to increase achievement in the disability categories and subsequent professional development should also be targeted (Trexler, 2013).

Population scoring differences exist between disability categories on the FCAT in the fourth and fifth grades through the years 2005 – 2010. Suggestions include investigating a more appropriate means for measuring achievement for students with disabilities. Further stigmatization of this population for failing to make adequate gains on grade level assessments, which results in negative consequences, must be avoided. These students have been identified and demonstrate a need for special education services. To remove the “special” in the name of accountability is simply negligent.

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Appendix

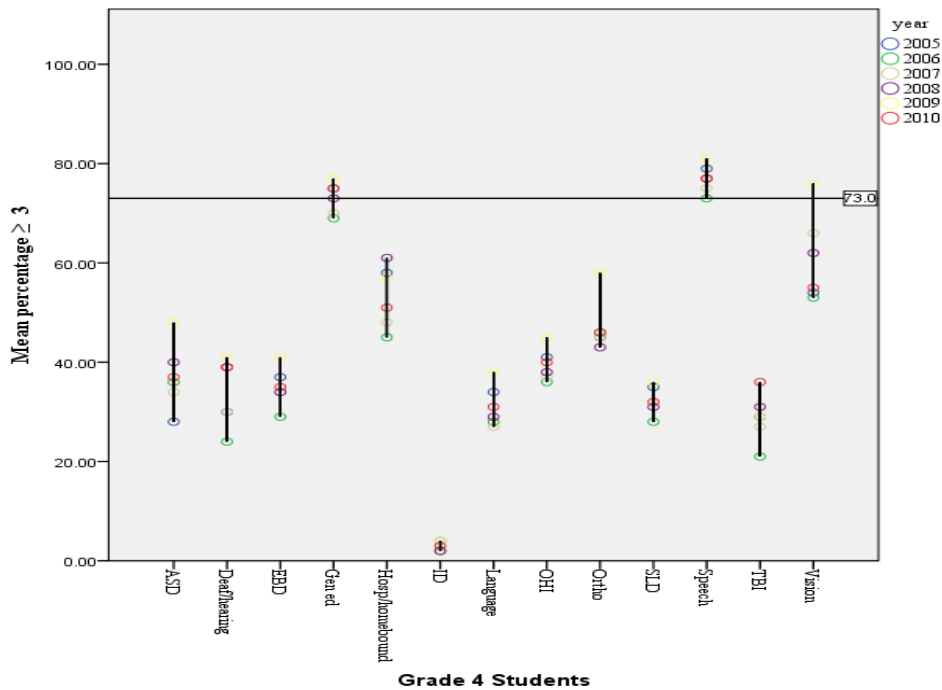


Figure 1. Mean scores of students scoring at the proficient level in 4th grade reading for each year. General education overall mean is 73%.

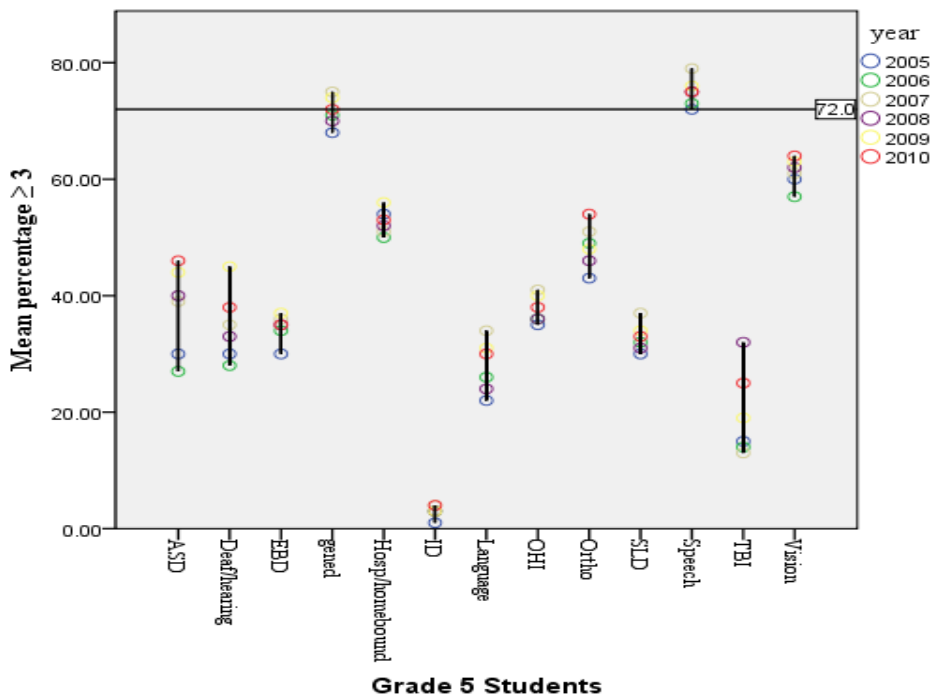


Figure 2. Mean scores of students scoring at the proficient level in 5th grade reading. General education overall mean is 72%.

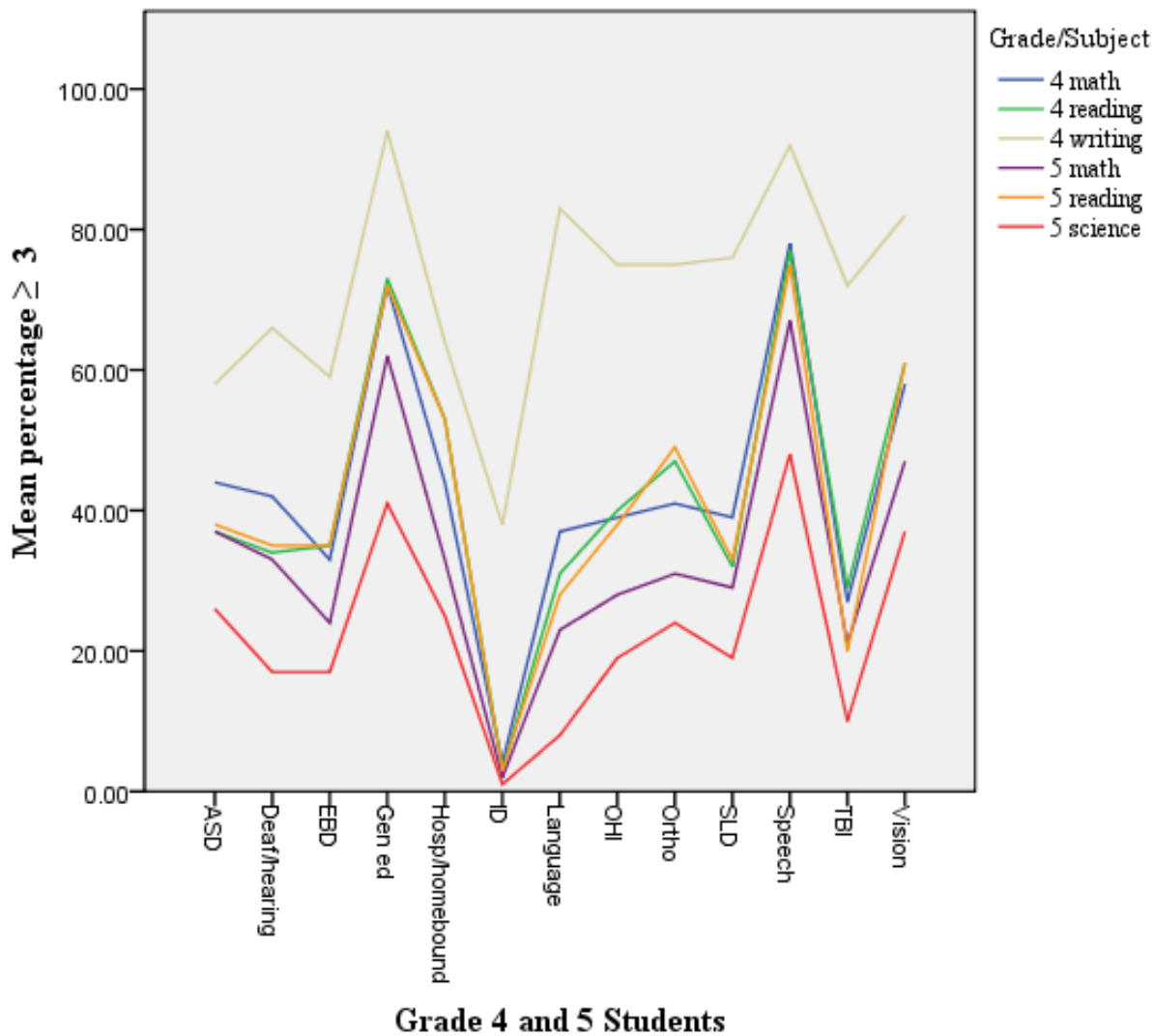


Figure 3. Overall (2005-2010) mean scores of students scoring at the proficient level in all six subjects.