

STATE OF NEW MEXICO
LEGISLATIVE EDUCATION STUDY COMMITTEE

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August 24, 2011

MEMORANDUM

TO: Legislative Education Study Committee

FR: Travis Dulany

RE: STAFF REPORT: GENDER ACHIEVEMENT GAP: WHERE ARE THE BOYS?

Introduction

During the 2006 interim, the Legislative Education Study Committee (LESC) heard a staff report on the gender gap in education. In that presentation LESG staff stated that, according to student achievement data for New Mexico, male students tended to be less proficient in reading and writing than females, and although they did tend to outperform females in math, they did so by smaller margins, noting that in some grades, no gender gap existed in math. It was also noted that, like male students elsewhere, male students in New Mexico were less likely than females to graduate from high school, and they have earned a declining share of academic credentials awarded by public institutions of higher education in the state.

Other testimony on this issue came from an interest group called the Boys Initiative and from the Santa Fe Boys Newsletter. Among other recommendations, these parties proposed requiring that all Public Education Department (PED) data posted on the department's website be disaggregated by gender and proposed providing increasing funding for the program initiated by the Legislature and the Governor to ensure that every school (or certain number of students) has a physical education teacher.

Finally, the Dean of the College of Education at the University of New Mexico (UNM) reported that a male figure in the classroom makes a significant impact, citing positive behavior changed

in classrooms with male teachers. She also stated that statistics show that many families do not have a male figure in the home.

This staff report will provide the following information:

- the nature of the gender gap;
- causes of the gender gap; and
- strategies for addressing the gender gap.

The Nature of the Gender Gap

According to the Pell Institute, data indicators point toward consistent or growing disparities in academic performance based on student gender. The gaps exist at state and national levels. Though they exist regardless of race and ethnicity, male achievement gaps widen within Native American and Hispanic populations.

According to data from the National Center for Education Statistics (NCES):

- male students are less likely to graduate from high school, and males receive fewer bachelor's, master's, and research doctoral degrees than females;
- male students in public K-12 schools are two times more likely to be suspended than are female students, and males are three times more likely to be expelled than females; and
- male students are nearly two times more likely to repeat kindergarten than females.

Student achievement data from PED also reveal a gender gap:

- as shown in the Attachment, between school year 2004-2005 and school year 2010-2011, averages of New Mexico female students rated proficient or above in reading range between 54.8 percent and 59.4 percent, while male student averages range from 44.6 percent to 49.8 percent;
- between school year 2004-2005 and school year 2010-2011, female students ranked higher than males in math proficiency levels; and
- of the 4-year cohorts, female graduation rates for school year 2008-2009 through school year 2009-2010 range between 64.9 percent and 72 percent, while male graduation rates range between 55.9 percent and 62.8 percent.

According to the College Board and ACT, New Mexico males score slightly higher on the Scholastic Aptitude Test (SAT) and the ACT test, despite lower scores on public school proficiency tests.

Causes of the Gender Gap

The reasons for achievement gaps between male and female students are subject to debate; however, scientific research, including some results compiled by the Education Testing Service (ETS), has identified a number of differences in neurological and cognitive development based on gender that may contribute to gaps in student achievement. In most cases females have the advantage while in others the advantage goes to the males:

- women tend to perform better than men on tasks of verbal memory;
- women possess a greater density of neurons in parts of the temporal-lobe cortex associated with language processing and comprehension;
- in girls, the prefrontal cortex that governs complex thoughts and impulse control matures 11 to 18 months earlier than for boys;
- in girls, processing speed on some moderately difficult types of tasks on intelligence tests, such as those involving language fluency and math computation, develop earlier, producing a gap that is evident in elementary school, widens in middle and high school, and narrows in adulthood;
- men tend to show some advantage on most spatial tests; and
- men tend to score higher on tests of mathematical reasoning or problem-solving.

Advocates for boys – including educators, physicians, social scientists, and journalists – point to several factors that they argue may contribute to the achievement gap. These include:

- Low percentages of male teachers, especially in elementary and middle schools:
 - a study on the effect of teacher gender on student performance based on national data and published in fall 2006 indicates that tests scores improve when students are taught by a teacher of their gender and decline when taught by a teacher of a different gender; and
 - commentators suggest that female teachers don't understand boys' interests in things like bodily functions or contact sports, and that they perceive boys to be more disruptive.
- Learning differences between boys and girls that favor girls and discourage boys in traditional classrooms. One educator observes that boys' natural learning assets include impulsivity, single-task focus, spatial kinesthetic learning, and aggression, and that they learn best through lessons broken into shorter, more action oriented segments than girls.
- Social and emotional differences and difficulties that boys experience when they are brought up without fathers.
- A commercial culture that devalues school and book learning, especially for boys, and encourages violence and aggression.
- One advocate for gender specific education sums up the situation as follows:

for the average boy, school is not as good a fit as it is for the average girl. More boys have problems with attention and focus than girls. Because of their higher activity level, boys are likely to get into more trouble than girls. And they are not given enough opportunities to move around – both in actual physical activity and in how they learn – because they spend too much time sitting and not enough time learning by doing, making, and building things.

While all of these broad arguments may have merit, ETS echoes the caution of other researchers against making assumptions about individual students based on such generalizations pointing out that, on virtually any measure, individual women and men vary far more than do the two groups.

And on related concerns, the American Civil Liberties Union (ACLU) has expressed disagreement over theories proposing brain differences between males and females, and instead claims that the science is a dressed up version of old stereotypes. Instead, the ACLU proposes focusing on individual students, rather than gender differences.

Strategies for Addressing the Gender Gap

In response to a growing public awareness and concern regarding the gender gap in academic achievement, researchers and advocates for boys have proposed solutions to close the gap. Eugene Weisfeld, the Executive Director of Educational Initiatives, Inc., proposes various changes or additions to classroom activities to help boys overcome the achievement gap, including the following:

- encourage principals (whose role is critical) to explore ways to make their schools more boy friendly and therefore more effective;
- as a part of existing in-service training requirements, provide teachers with professional development in teaching to boys' and girls' strengths and how to make their classrooms more boy friendly. This will make teaching boys more effective with much less stress on everyone;
- explore ways to teach core subjects to all boy and all girl groups;
- combine physical activity with learning to increase the physical activity boys get throughout the day;
- provide athletic opportunities that less athletic boys can use (e.g., the creation of obstacle courses);
- provide ways boys can channel their energy while sitting in class (e.g., sitting on exercise balls which allows them to move, squeezing hand held objects, etc.);
- use existing free or inexpensive technology to make learning more engaging for boys, thereby increasing what they learn (e.g., help teachers to provide student access to websites for the National Aeronautics and Space Administration (NASA), Scientific American, or the History Channel);
- find out how what would make school better for boys through boy focus groups or by similar methods;
- to the extent possible, give boys more say in what happens to them at school;
- give boys role models and teach life skills through organized peer tutoring programs;
- reward boys' academic successes;
- work with teachers, principals, parents, and school staff to make boys feel valued and appreciated;
- provide books in classrooms that boys like to read; and
- create other ways boys academic achievement and behavior can be improved.

Much of the current public debate about the gender gap focuses on single-sex schooling, a practice permitted under the federal *No Child Left Behind Act of 2001*. In 2005, the US Department of Education (USDE) published a review of research of the benefit of single-sex

education. This review determined that, while the results were equivocal and the research limited, there is a degree of support for the premise that single-sex schooling can be helpful, especially for certain outcomes related to academic achievement and more positive academic aspirations for both male and female students.

In response to the growing interest in single-sex schooling, in October 2006, USDE published its final rule regarding nondiscrimination based on sex under Title IX of the Education Amendments of 1972, to “clarify and modify Title IX regulatory requirements pertaining to the provisions of single-sex schools, classes and extracurricular activities in elementary and secondary schools.” The rule establishes new standards that the federal Office of Civil Rights will use to determine whether recipients operating single-sex classes, activities, or schools are in compliance with Title IX:

- **Single-Sex classes:** A recipient that operates a non-vocational co-educational school may provide non-vocational single-sex classes or activities if:
 - each class activity is based on the recipient’s important objective to improve educational achievement and is designed to meet the particular, identified educational needs of its students;
 - the class or activity is substantially related to the important objective;
 - the objective is implemented in an evenhanded manner;
 - enrollment is completely voluntary; and
 - all other students, including those of the excluded sex, are provided substantially equal single-sex or co-educational class activity.
- In addition, the recipient must conduct evaluations at least biennially to ensure that the single-sex classes or activities are based upon genuine justifications rather than a reliance upon overly broad generalizations about the different talents, capacities or preferences of either sex, and that they are substantially related to the achievement of the important objective.
- **Single-sex schools:** A recipient that operates a public non-vocational elementary or secondary school that excludes any student on the basis of sex must provide excluded students with a substantially equal single-sex or co-educational school. However, an operator of a single-sex non-vocational public charter school that is a local educational agency under any state law is exempt from this requirement.
- Substantial equality is determined by considering such factors as the policies and criteria for admission, the educational benefits provided, the qualifications of faculty, geographic accessibility, facilities and resources, and intangible features such as the reputation of faculty.

The states of Michigan and Wisconsin have passed laws that provide for single-sex classes or schools. School districts in Ohio, New York, Kentucky, Illinois, South Carolina, and Texas, all have some single-sex schools and the number of public schools nationwide that provide single-sex classes or schools has grown from five in 1995 to at least 518 nationwide in 2009.

In New Mexico, schools that have publicly promoted single-sex classes include the following:

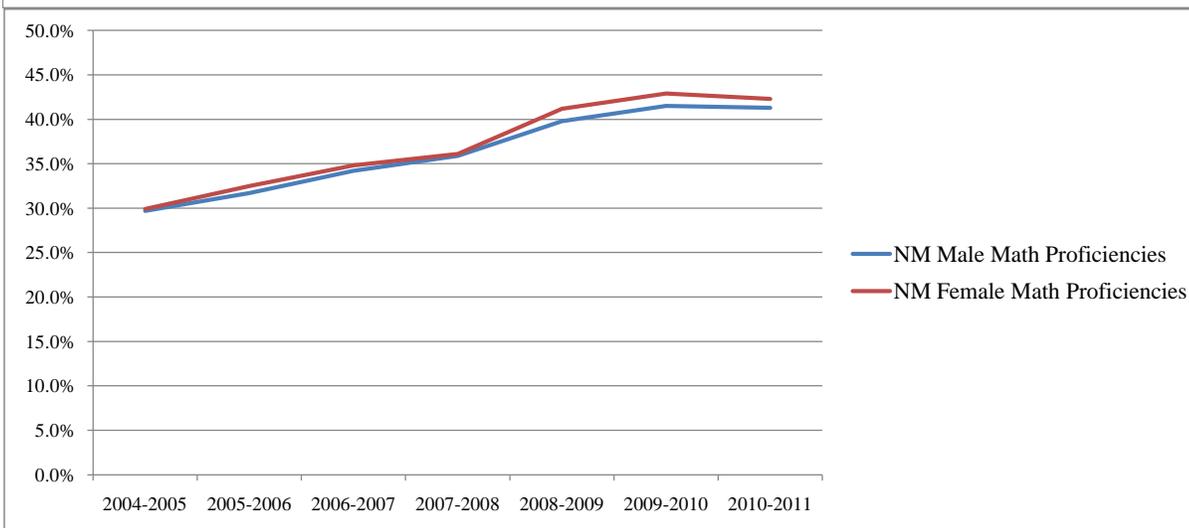
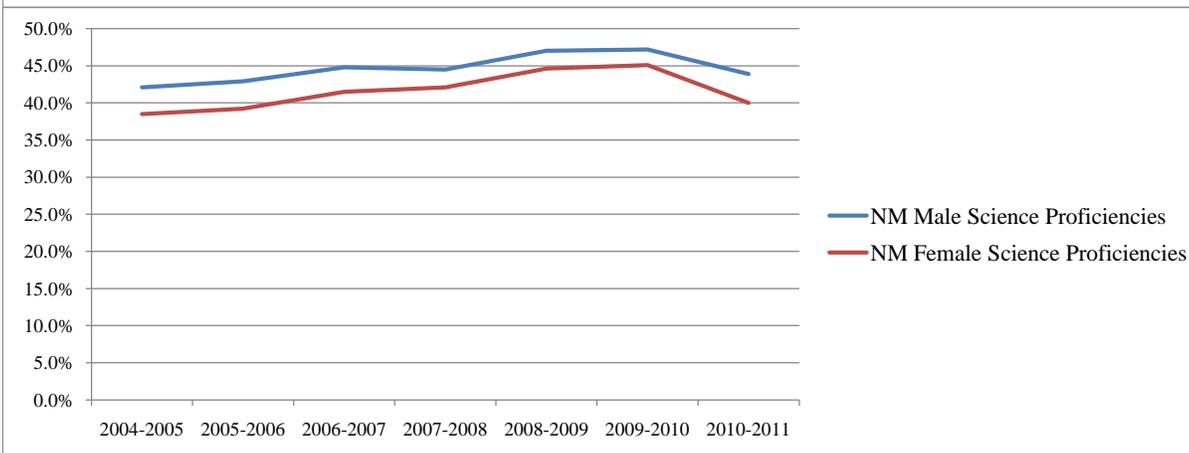
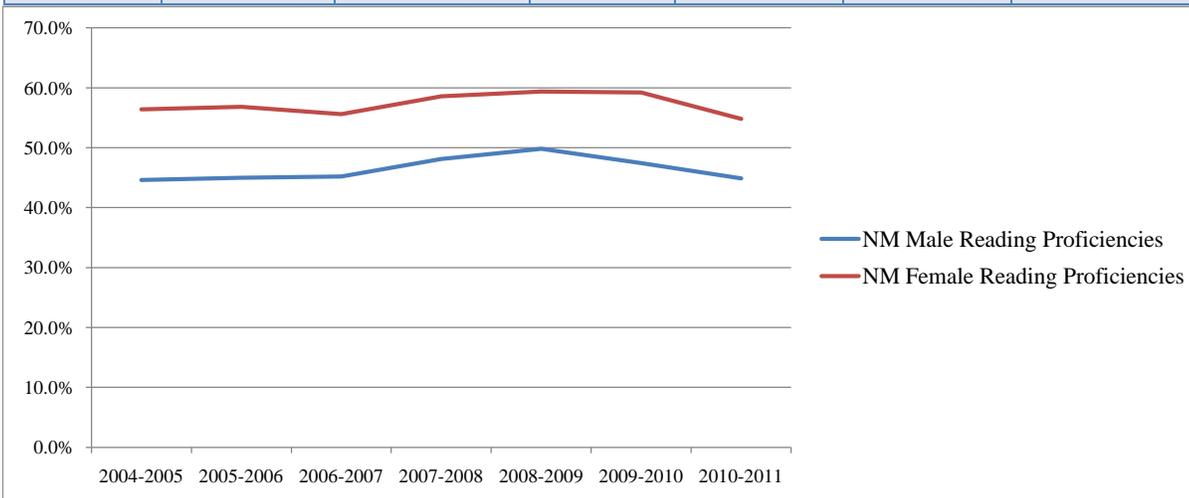
- Pojoaque Valley Intermediate School currently provides single-sex classes in the fourth and fifth grades. Though teachers have reported gains in student test scores, a formal review of the program is underway for the current school year;
- in school year 2009-2010, McCollum Elementary in Albuquerque Public Schools (APS) offered an all male class, in which approximately 15 students participated. The class was taught by a male teacher, and came into being due to enrollment demographics at the school. Trend data show no significant gains over the rest of the school's co-educational classes, and the school attributes any positive impacts to a low student-to-teacher ratio;
- in school year 2006-2007, Van Buren Middle School in APS offered single-sex classes for math and English. However, according to APS staff, the class is no longer offered; and
- the Public Education Commission received an application for the Coral Community Charter this year. If approved, the charter school would provide single-gender classes in Albuquerque to approximately 390 kindergarten through sixth grade students.

Presenter

Eugene Weisfeld, Executive Director of Educational Initiatives, Inc. and a substitute teacher, will describe strategies for closing the gender gap and proposals for addressing gender achievement issues in New Mexico.

New Mexico Math and Reading Proficiency Averages in All Grades by Gender

School Year	Male Reading	Female Reading	Male Math	Female Math	Male Science	Female Science
2004-2005	44.6%	56.4%	29.7%	29.9%	42.1%	38.5%
2005-2006	45.0%	56.8%	31.7%	32.5%	42.9%	39.2%
2006-2007	45.2%	55.6%	34.2%	34.8%	44.8%	41.5%
2007-2008	48.1%	58.6%	35.9%	36.1%	44.5%	42.1%
2008-2009	49.8%	59.4%	39.8%	41.2%	47.0%	44.6%
2009-2010	47.4%	59.2%	41.5%	42.9%	47.2%	45.1%
2010-2011	44.9%	54.8%	41.3%	42.3%	43.9%	40.0%



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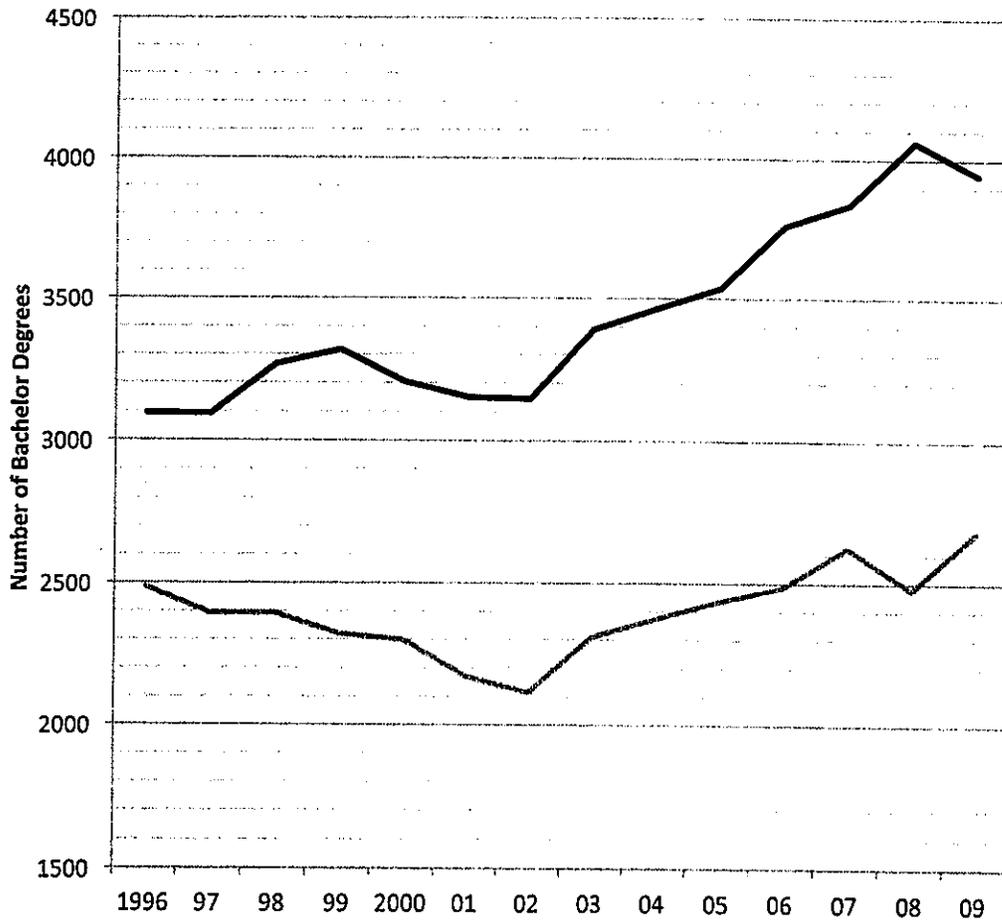
LESC

Closing the Gender Gap

A presentation
to the Legislative Education Study Committee
August 25, 2011

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Educational Initiatives, Inc.
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Bachelor's Degrees from NM Public Colleges & Universities, by Gender, 1996-2009

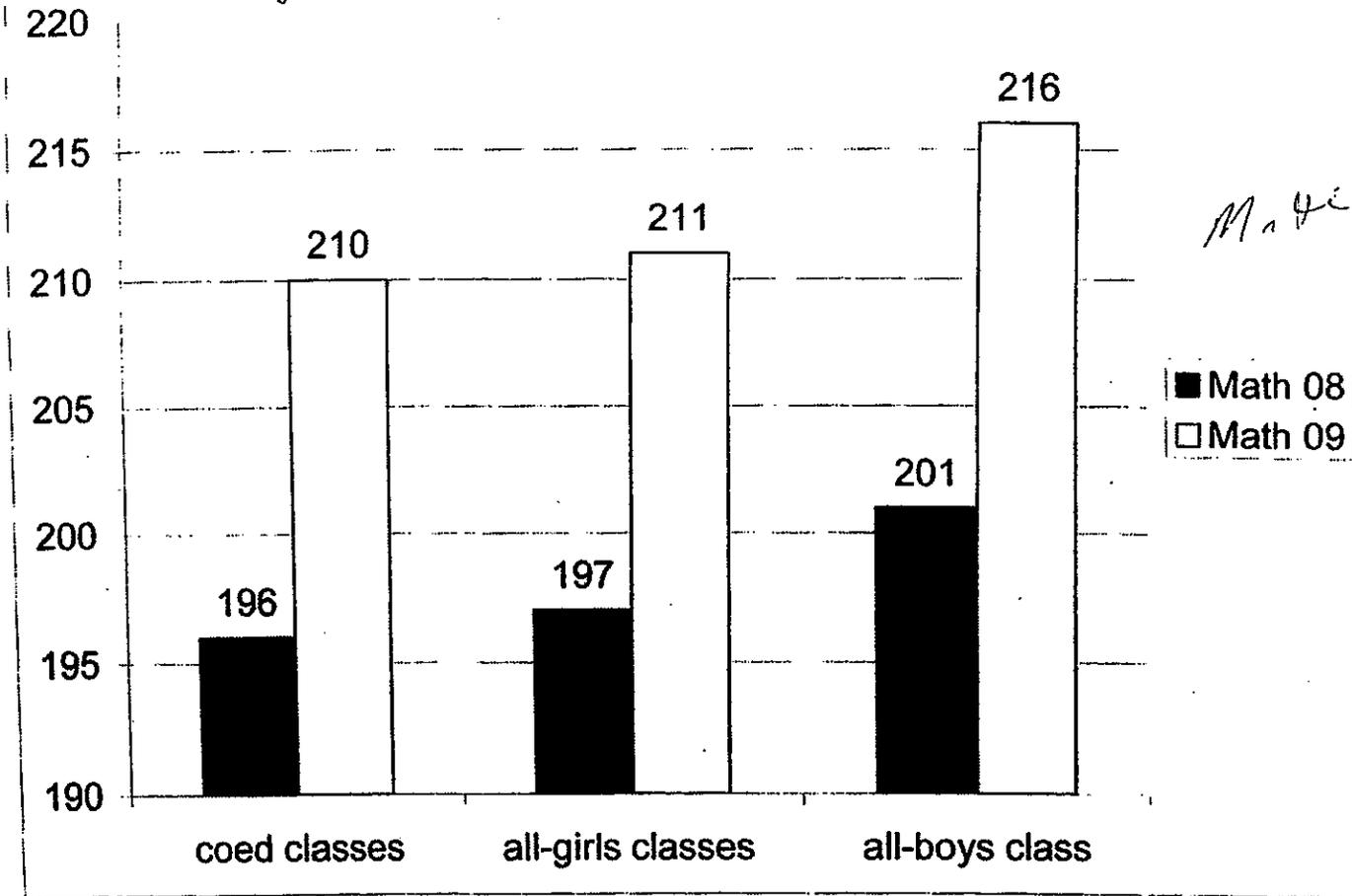


— Female Recipients - - - Male Recipients
Compiled by Paul Golding, Sources: NM Higher Ed Dept & Nat Center for Ed Statistics

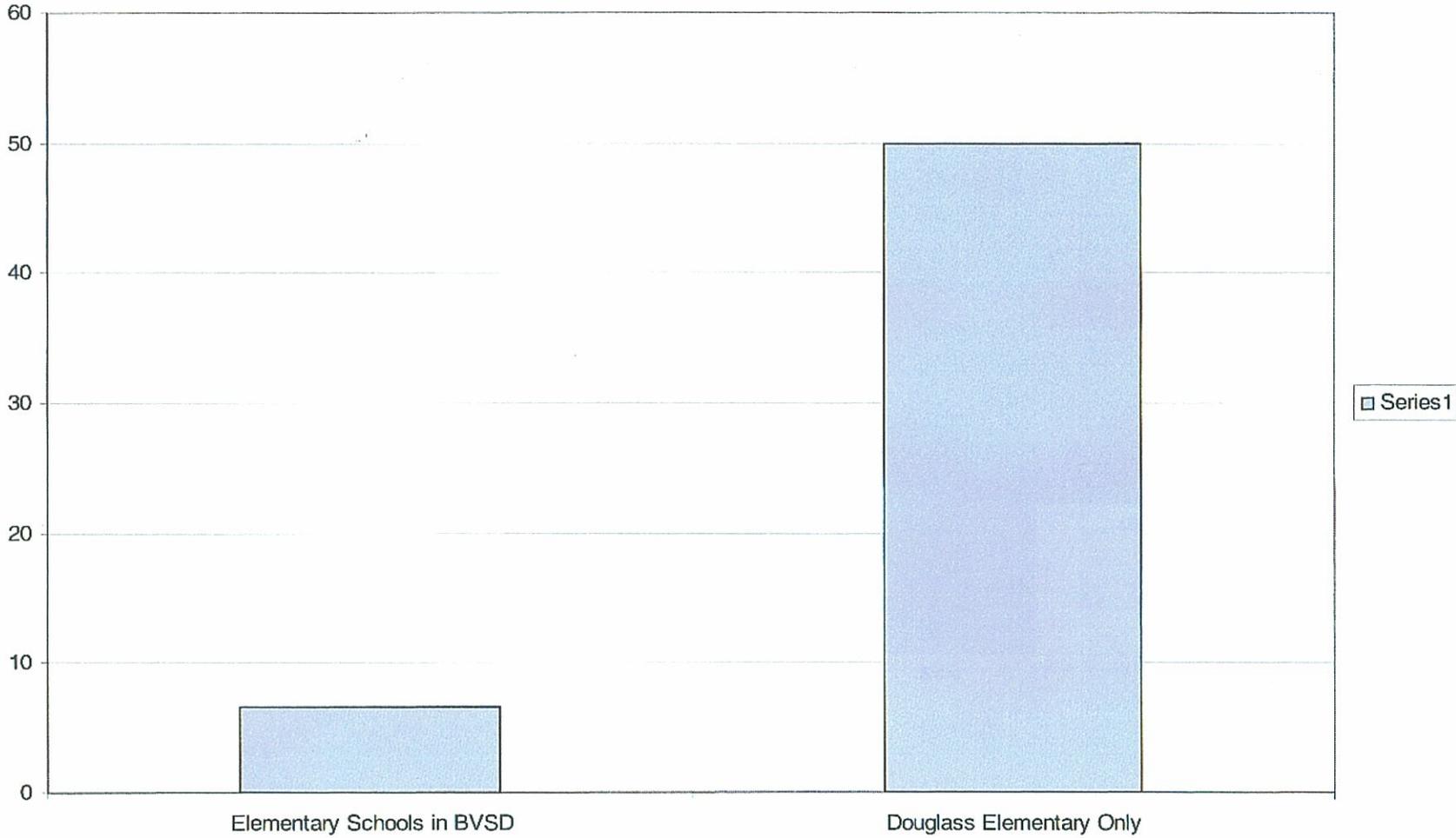
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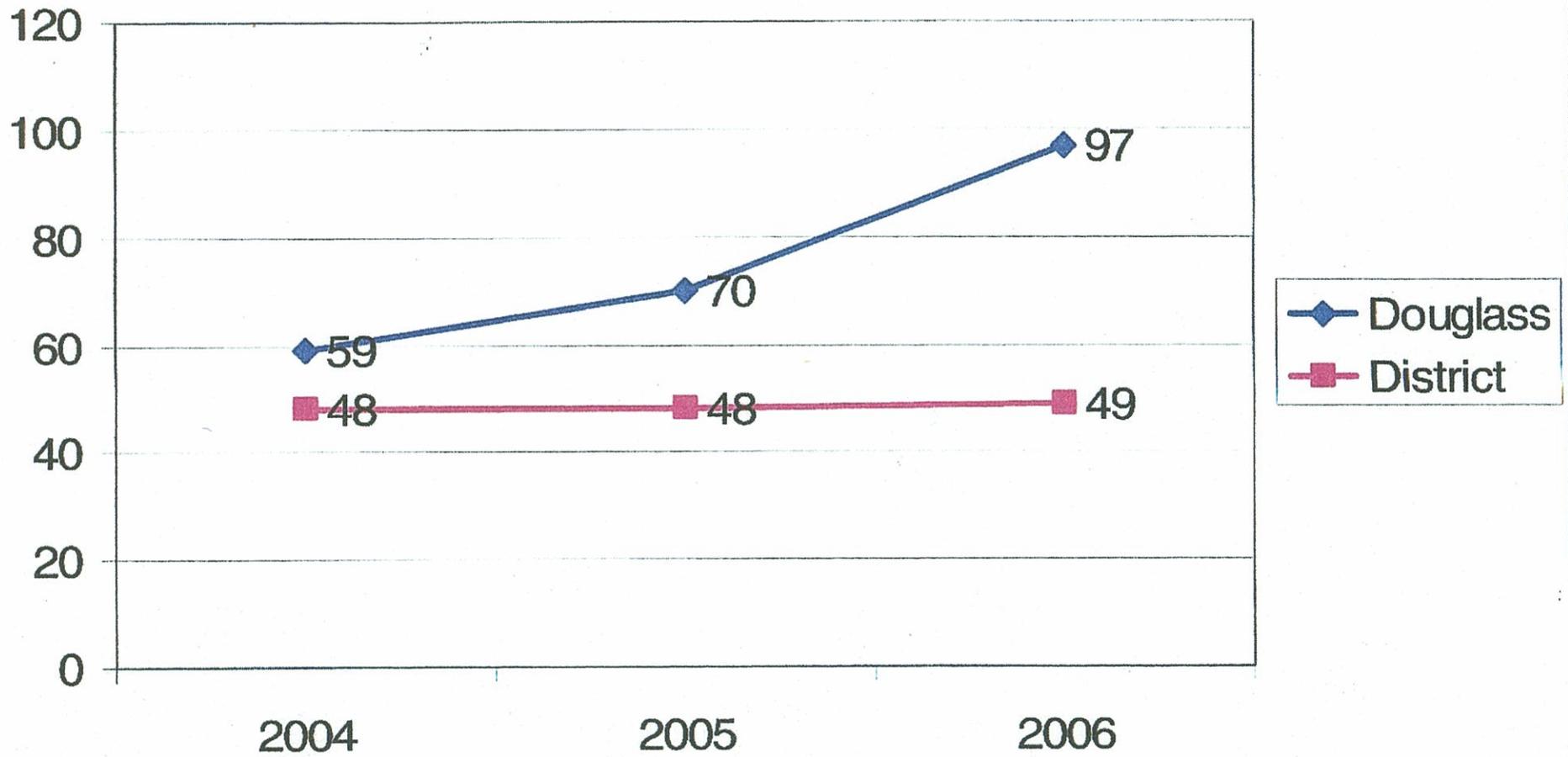
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Tara Ortiz



**Net Percent Gains for Special Education Students
2004-2005**



Special Ed Students' Reading Progress on CSAP 2004-2005



Special Ed Students' Math Progress on CSAP 2004-2006

