

**Comparative Passing Rates for
MAS Students & Non-MAS Students on AIMS Test
2007 to 2010 Academic Years**

INTRODUCTION

The following data analysis is designed to measure the academic impact of students who have taken Tucson Unified School District (TUSD) Mexican American Studies (MAS) classes on the Arizona Instrument to Measure Standards (AIMS) compared to the impact that “traditional” classes have on AIMS outcomes of students who did not take MAS classes. The data analyzed are taken from the data set ***“AIMS Achievement Comparison for Students Taking One or More Mexican American Studies Classes – Initial Passing Rate Versus Cumulative Passing Rate by AIMS Subjects and Cohort Year”*** (The numbers from this data spreadsheet were created by TUSD - Department of Accountability & Research that is labeled in the Appendix 1 of this paper as *“AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes Initial Passing Rate Versus Cumulative Passing Rate by AIMS Subject and Cohort Year - January 6, 2011”*).

The classes that constitute MAS classes are: American Government/Social Justice Education Project 1, 2; American History/Mexican American Perspectives 1,2; Latino Literature 7, 8; and Latino Literature 5, 6. These MAS CORE classes fulfill the Arizona graduation requirement for the following “traditional” classes: American Government, American History, 12th grade English and 11th grade English.

METHODOLOGY

The methodology for this data analysis cites AIMS data for the graduation cohorts of 2007, 2008, 2009, and 2010. Specifically, it indicates data on the “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” on the AIMS Reading, Writing and Math test portions for “All Graduates Combined,” “Graduates Who Did Not Take Mexican American Studies Classes,” and “Graduates Who Took One or More Mexican American Studies Classes.” The six indicators identified above are described and defined in the subsequent sections:

All Graduates Combined – all students within a given graduation cohort from the following TUSD High Schools: Catalina High Magnet School, Cholla High Magnet School, Palo Verde High Magnet School, Pueblo Magnet High School, Rincon High School, Sahuaro High School, Sabino High School, Santa Rita High School, Tucson High Magnet School, and University High School. It is important to note that “All Graduates Combined” includes students who did not take Mexican American Studies (MAS) classes or in addition to students who did take Mexican American Studies classes. Additionally, it is important to note that for the 2007 to 2010 academic years, MAS classes were not offered at Palo Verde High Magnet School, Sahuaro High School, Sabino High School, Santa Rita High School and University High School, all TUSD high schools that were included in this comparative analysis.

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Graduates Who Did Not Take Mexican American Studies Classes – all students within a given graduation year cohort who did not take MAS classes (on TUSD A&R January 6, 2011 spreadsheet this data set is labeled and read under the subtitle as “Graduates Who Did Not Take Ethnic Studies Classes” – See Appendix 1) from the following TUSD High Schools: Catalina High Magnet School, Cholla High Magnet School, Palo Verde High Magnet School, Pueblo Magnet High School, Rincon High School, Sahuaro High School, Sabino High School, Santa Rita High School, Tucson High Magnet School, and University High School. Additionally, it is important to consider that for the 2007 to 2010 academic years, MAS classes were not offered at Palo Verde High Magnet School, Sahuaro High School, Sabino High School, Santa Rita High School and University High School, all TUSD high schools that were included in this comparative analysis.

Graduates Who Took One or More Mexican American Studies Classes – is defined as all students within a given graduation cohort year that took one or more MAS classes. The MAS classes include the following: American Government/Social Justice Education Project 1, 2; American History/Mexican American Perspectives 1, 2; Latino Literature 7, 8; and Latino Literature 5, 6. It is important to note that MAS classes during the 2007-2010 academic years were offered only at Catalina High School, Cholla High Magnet School, Pueblo Magnet High School, Rincon High School, and Tucson High Magnet School. The data analysis for “All Graduates Combined” and “Graduates Who Did Not Take Mexican American Studies Classes” include in its analysis, in addition to the high school sites where MAS classes were offered for the 2007 -2010 academic years, the following additional TUSD High Schools where no MAS classes were offered: Palo Verde High Magnet School, Sahuaro High School, Sabino High School, Santa Rita High School, and University High School.

The Initial Passing Rate – the percentage of students in a given graduation cohort year who passed the AIMS test for Reading, Writing, and Math when they took the AIMS test for the first time during the Spring semester of their 10th grade year. For example, in Table 1 below, it illustrates in the “Initial Passing Rate” area of Reading for “All Graduates Combined” the 2010 graduation cohort’s “Initial Passing Rate” was 78%, meaning that when these students took the test for the first time during the Spring of their 10th grade year, 78% of the students in this cohort passed the AIMS Reading test. Table 1 through Table 9 should be interpreted the same way in which the aforementioned example for Table 1 was read for AIMS Initial Passing Rates for Reading, Writing and Math for all three of the graduate cohort groups.

Cumulative Passing Rate – is the percentage of students in a given graduation cohort year who passed the AIMS test for Reading, Writing, and Math after a possible 5 total testing opportunities, which translates to their overall cumulative passing rates to include the initial passing rate and at least one additional, and possibly up to four

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additional testing opportunities. The possible five AIMS testing opportunities that comprise the “Cumulative Passing Rate” for these students in Table 1 data were as follows: 1) Spring semester of their 10th grade year, 2) Fall semester of their 11th grade year, 3) Spring semester of their 11th grade year, 4) Fall semester of their 12th grade year, and 5) Spring semester of their 12th grade year. Table 1 illustrates that the “Cumulative Passing Rate” area of Reading for “All Graduates Combined” the 2010 graduation cohort “Cumulative Passing Rate” was 94%, meaning that the students in this graduation cohort passed the AIMS Reading test at a cumulative 94% when given at least one and possibly up to five testing opportunities. Table 2 through Table 9 should be interpreted the same way that the example for Table 1 was interpreted for AIMS “Cumulative Passing Rate” for Reading, Writing and Math.

Improvement in Passing Rate – the difference between “Cumulative Passing Rate” and the “Initial Passing Rate” of a given student graduation cohort year. For example, in Table 1 below, it illustrates that the “Improvement in Passing Rate” area of Reading for “All Graduates Combined” the 2010 graduation cohort “Improvement in Passing Rate” was 15%, equaling the difference of the 2010 student cohort’s “Cumulative Passing Rate” and “Initial Passing Rate”. Table 2 through Table 9 should be interpreted the same way that the example for Table 1 was interpreted for AIMS “Improvement in Passing Rate” for Reading, Writing and Math.

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DATA TABLES, GRAPHS, RESULTS, & NARRATIVE ANALYSIS

AIMS Reading Comparative Analysis

Table 1 below illustrates the “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**All Graduates Combined**” on the AIMS Reading Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Reading Test in “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**All Graduates Combined.**”

Table 1. AIMS READING Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of All Graduates Combined				
Graduation Cohort	Number Tested	READING		
		Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	3147	78%	94%	15%
2009	3163	78%	93%	16%
2008	3281	75%	92%	17%
2007	3467	75%	93%	18%
4 Year Average		77%	93%	17%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix “AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rate Versus Cumulative Passing Rate by AIMS Subject and Cohort Year)

Table 2 below illustrates the “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**Graduates Who Did Not Take Mexican American Studies Classes**” on the AIMS Reading Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Reading Test in “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**Graduates Who Did Not Take Mexican American Studies Classes.**”

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Table 2. AIMS READING Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of <i>Graduates Who Did Not Take Mexican American Studies Classes</i>				
Graduation Cohort	Number Tested	READING		
		Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	2757	80%	94%	14%
2009	2798	79%	93%	14%
2008	2874	77%	92%	15%
2007	3169	77%	93%	16%
4 Year Average		78%	93%	15%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix "AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year)

Table 3 below illustrates the "Initial Passing Rate," "Cumulative Passing Rate," and "Improvement in Passing Rate" for "***Graduates Who Took One or More Mexican American Studies Classes***" on the AIMS Reading Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Reading Test in "Initial Passing Rate," "Cumulative Passing Rate," and "Improvement in Passing Rate" for "***Graduates Who Took One or More Mexican American Studies Classes***."

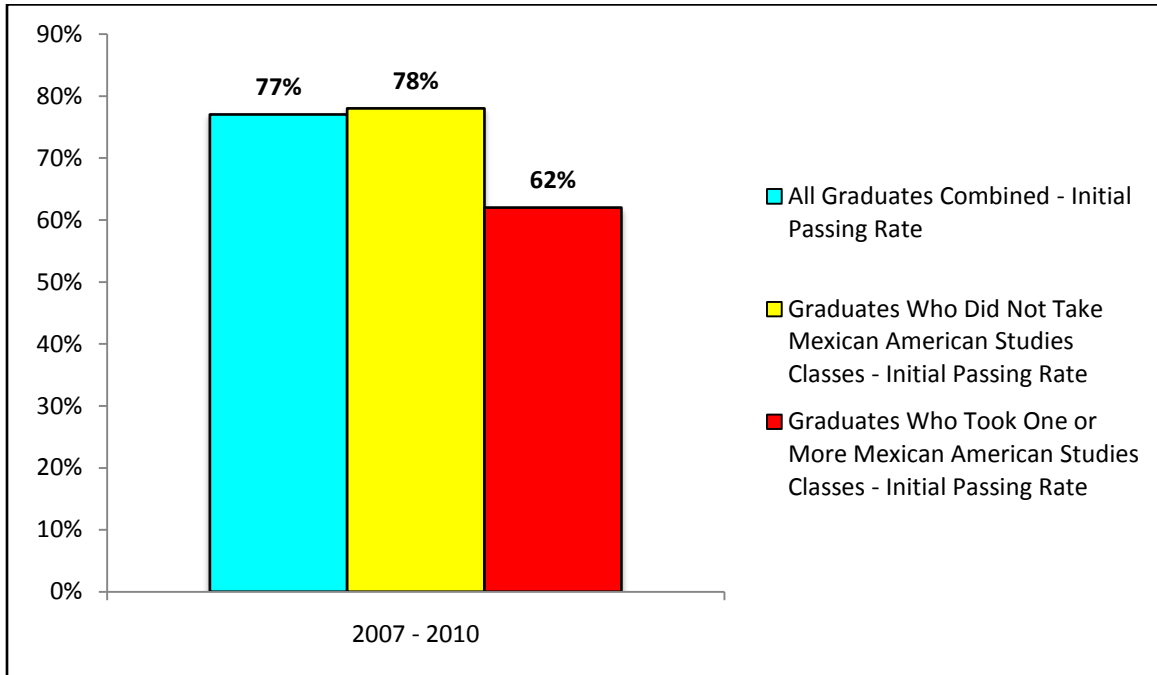
Table 3. AIMS READING Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of <i>Graduates Who Took One or More Mexican American Studies Classes</i>				
Graduation Cohort	Number Tested	READING		
		Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	306	66%	92%	26%
2009	268	65%	92%	27%
2008	362	62%	94%	31%
2007	252	56%	90%	34%
4 Year Average		62%	92%	30%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix "AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year)

Graph 1 below illustrates the four-year average, 2007-2010, of the "***Initial Passing Rate***" on the AIMS Reading Test for: "All Graduates Combined"; "Graduates Who Did Not Take Mexican American Studies Classes"; and "Graduates Who Took One or More Mexican American Studies Classes."

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Graph 1. **2007-2010 AIMS READING TEST - 4 YEAR AVERAGE - INITIAL PASSING RATE** of: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes”



RESULTS for 2007 – 2010 AIMS READING TEST: INITIAL PASSING RATE of: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes”

The four year average for the 2007 – 2010 academic years for the AIMS Reading “Initial Passing Rate” of the three cohort groups are as follows: “All Graduates Combined,” 77%; “Graduates Who Did Not Take Mexican American Studies Classes,” 78%; and “Graduates Who Took One or More Mexican American Studies Classes,” 62%.

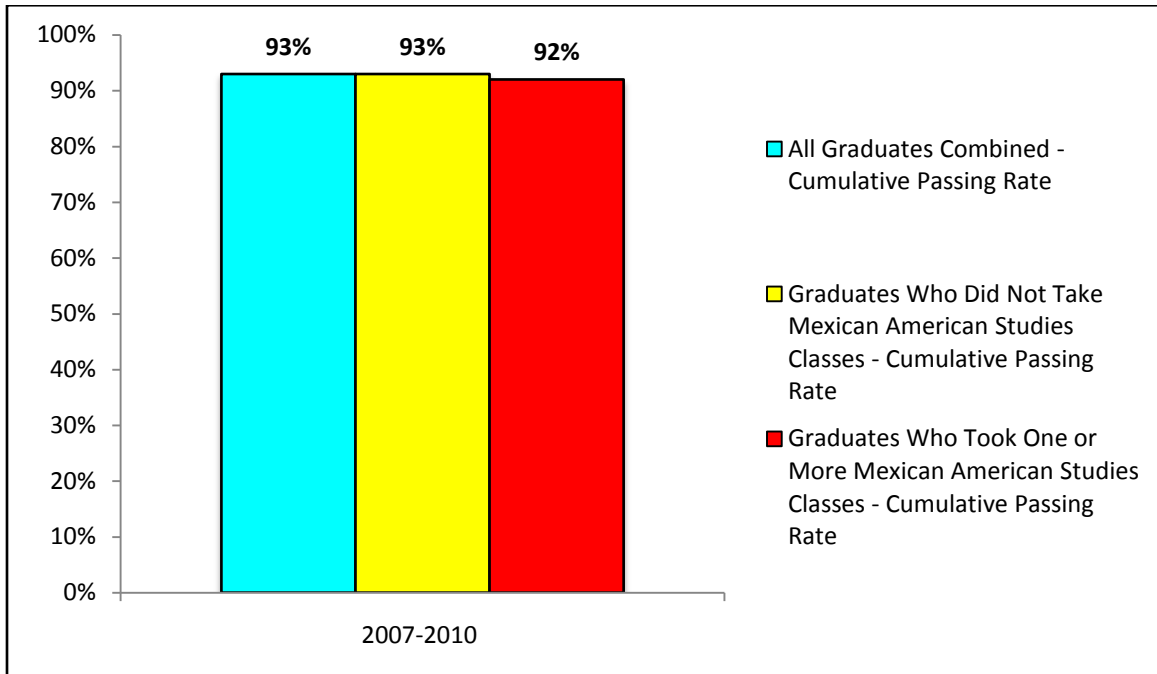
It is important to note that for the AIMS Reading “Initial Passing Rate” of “Graduates Who Took One or More Mexican American Studies Classes,” this group of students had not yet taken MAS classes during their initial opportunity to take the AIMS Test because the first opportunity to take the AIMS Test is during the Spring semester of students’ 10th grade year. Mexican American Studies classes are not offered until the 11th grade year.

Furthermore, “Graduates Who Took One or More Mexican American Studies Classes” on their AIMS Reading “Initial Passing Rate” passed at 15% less than the “All Graduates Combined” group and 16% lower than less than the “Graduates Who Did Not Take Mexican American Studies Classes” group. Also important to note is that the data on the “Initial Passing Rate” demonstrates that students coming in to MAS classes during their 11th grade year are the lowest performing group of students in the district within this comparative analysis.

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Graph 2 below illustrates the four-year average, 2007-2010, of the “**Cumulative Passing Rate**” of the AIMS Reading Test for: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

Graph 2. **2007-2010 AIMS READING TEST - 4 YEAR AVERAGE - CUMULATIVE PASSING RATE** of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



RESULTS for 2007 – 2010 AIMS READING TEST: CUMULATIVE PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four year average, 2007 – 2010 academic years, for the AIMS Reading “Cumulative Passing Rate” of the three cohort groups are as follows: “All Graduates Combined, 93%; “Graduates Who Did Not Take Mexican American Studies Classes,” 93%; and “Graduates Who Took One or More Mexican American Studies Classes,” 92%.

The AIMS Reading “Cumulative Passing Rate” for “Graduates Taking One or More Mexican American Studies Classes” demonstrates a “**closing of the academic achievement gap**” which is substantial given that MAS students had an “Initial Passing Rate” significantly lower (-15% and -16%) than their comparative cohort groups.

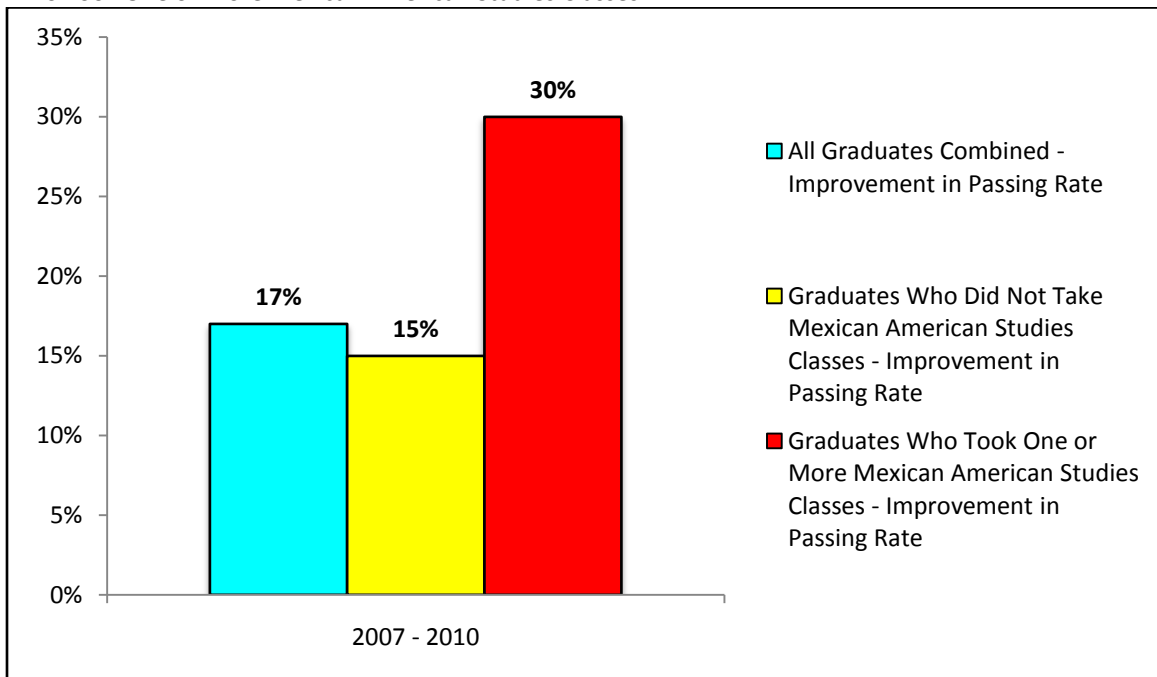
Moreover, for the 2008 cohort year for “Cumulative Passing Rate” on AIMS Reading, “Graduates Who Took One or More Mexican American Studies Classes” not

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only closed the achievement gap, but also had an outcome that resulted in a +2% inversion of the achievement gap in comparison to both groups.

Graph 3 below illustrates the four-year average, 2007-2010, of the **“Improvement in Passing Rate”** on the AIMS Reading Test for: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

Graph 3. **2007 – 2010 AIMS READING TEST - 4 YEAR AVERAGE– IMPROVEMENT IN PASSING RATE** of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



RESULTS of 2007 – 2010 AIMS READING TEST - IMPROVEMENT IN PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four year average, 2007 – 2010 academic years, for **actual** “Improvement in Passing Rate” on the AIMS Reading Test of the three cohort groups are as follows: “All Graduates Combined,” 17%; “Graduates Who Did Not Take Mexican American Studies Classes,” 15%; and “Graduates Who Took One or More Mexican American Studies Classes,” 30%.

While it should be noted that for the 2007-2010 AIMS Reading: “All Graduates Combined” had a **possible improvement in passing rate of 23 percentage points** (Initial

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Passing Rate of 77%); “Graduates Who Did Not Take Mexican American Studies Classes” had a **possible improvement in passing rate of 22 percentage points** (Initial Passing Rate of 78%); and “Graduates Who Took One or More Mexican American Studies Classes” had a **possible improvement in passing rate of 38 percentage points** (Initial Passing Rate of 62%) – “Graduates Who Took One or More Mexican American Studies Classes” had a **rate of improvement** (Actual Rate of Improvement / Possible Improvement in Passing Rate) **that was 79%** compared to “All Graduates Combined” rate of improvement of 74% and “Graduates Who Did Not Take Mexican American Studies Classes” rate of improvement of 68%.

Table 4. **2007-2010 - AIMS Reading Rate of Improvement** for: “All Groups Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes”

Cohort	Initial Passing Rate	Possible Improvement in Passing Rate	Actual Improvement in Passing Rate	Rate of Improvement	Difference (+/-) MAS – Non MAS
All Graduates Combined (ACG)	77%	23%	17%	74%	(-) 5%
Graduates Who Did Not Take Mexican American Studies Classes (NonMAS)	78%	22%	15%	68%	(-) 11%
Graduates Who Took One or More Mexican American Studies Classes	62%	38%	30%	79%	(+)5% more than (ACG) (+)11% than more (NonMAS)

Possible Improvement in Passing Rate is determined by the following equation: (100% - Initial Passing Rate)

Actual Improvement in Passing Rate is calculated as follows: (Cumulative Passing Rate – Initial Passing Rate)

Rate of Improvement is calculated as follows: (Actual Improvement in Passing Rate / Possible Improvement in Passing Rate)

AIMS Writing Comparative Analysis

Table 5 below illustrates the “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**All Graduates Combined**” on the AIMS Writing Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Writing Test in “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**All Graduates Combined.**”

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Table 5. AIMS WRITING Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of <i>All Graduates Combined</i>				
		WRITING		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	3147	74%	95%	21%
2009	3163	79%	93%	14%
2008	3281	68%	93%	24%
2007	3467	77%	94%	17%
4 Year Average		75%	94%	19%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix "AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year")

Table 6 below illustrates the “Cumulative Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**Graduates Who Did Not Take Mexican American Studies Classes**” on the AIMS Writing Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Writing Test in “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**Graduates Who Did Not Take Mexican American Studies Classes.**”

Table 6. AIMS WRITING Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of <i>Graduates Who Did Not Take Mexican American Studies Classes</i>				
		WRITING		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	2757	75%	95%	20%
2009	2798	80%	93%	13%
2008	2874	70%	93%	23%
2007	3169	78%	94%	16%
4 Year Average		76%	94%	18%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix "AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year")

Table 7 below illustrates the “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**Graduates Who Did Take One or More Mexican American Studies Classes**” on the AIMS Writing Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Writing Test in “Initial Passing

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Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**Graduates Who Did Take One or More Mexican American Studies Classes**”

Table 6. AIMS WRITING Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of *Graduates Who Took One or More Mexican American Studies Classes*

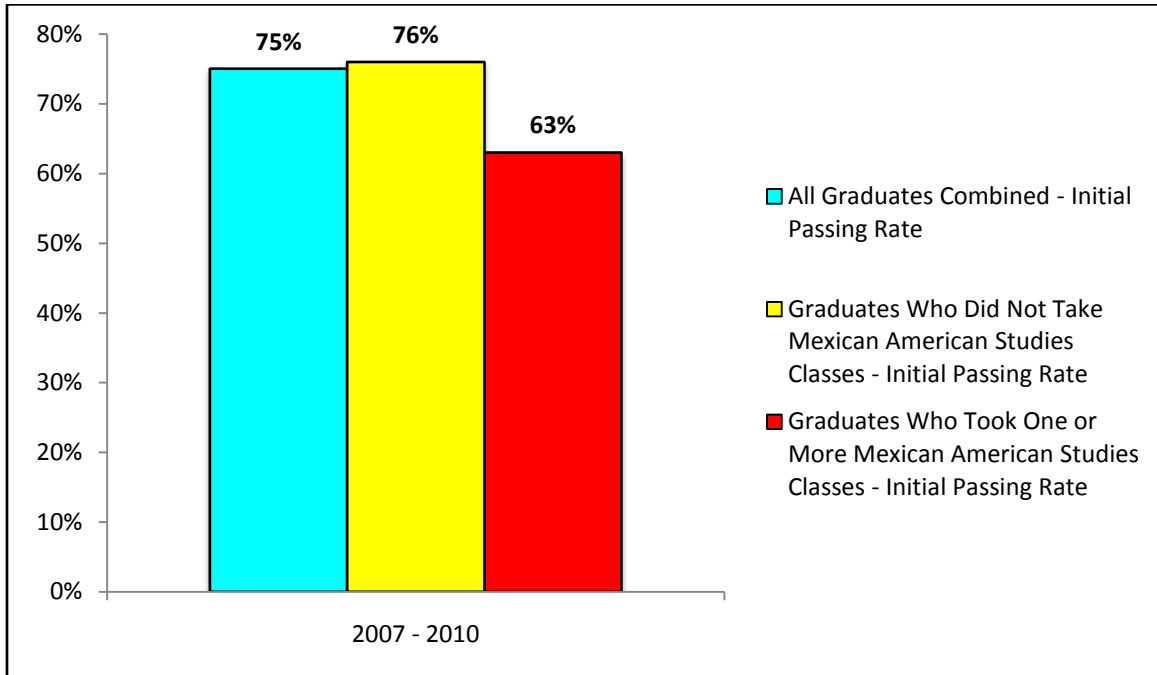
Graduation Cohort	Number Tested	WRITING		
		Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	306	65%	93%	28%
2009	268	68%	91%	23%
2008	362	57%	94%	38%
2007	252	61%	93%	32%
4 Year Average		63%	93%	30%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix “AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year”)

Graph 4 below illustrates the four-year average, 2007-2010, of the “**Initial Passing Rate**” on the AIMS Writing Test for: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

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Graph 4. **2007-2010 AIMS WRITING TEST - 4 YEAR AVERAGE - INITIAL PASSING RATE** of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



RESULTS for 2007 – 2010 AIMS WRITING TEST: INITIAL PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four-year average for the 2007-2010 academic years for the AIMS Writing “Initial Passing Rate” of the three cohort groups are as follows: “All Graduates Combined,” 75%; “Graduates Who Did Not Take Mexican American Studies Classes,” 76%; and “Graduates Who Took One or More Mexican American Studies Classes,” 63%.

It is important to note that for the AIMS Writing “Initial Passing Rate” of “Graduates Who Took One or More Mexican American Studies Classes,” this group of students had not yet taken MAS classes during their initial opportunity to take the AIMS Test because the first opportunity to take the AIMS Test is during the Spring semester of students’ 10th grade year. Mexican American Studies classes are not offered until the 11th grade year.

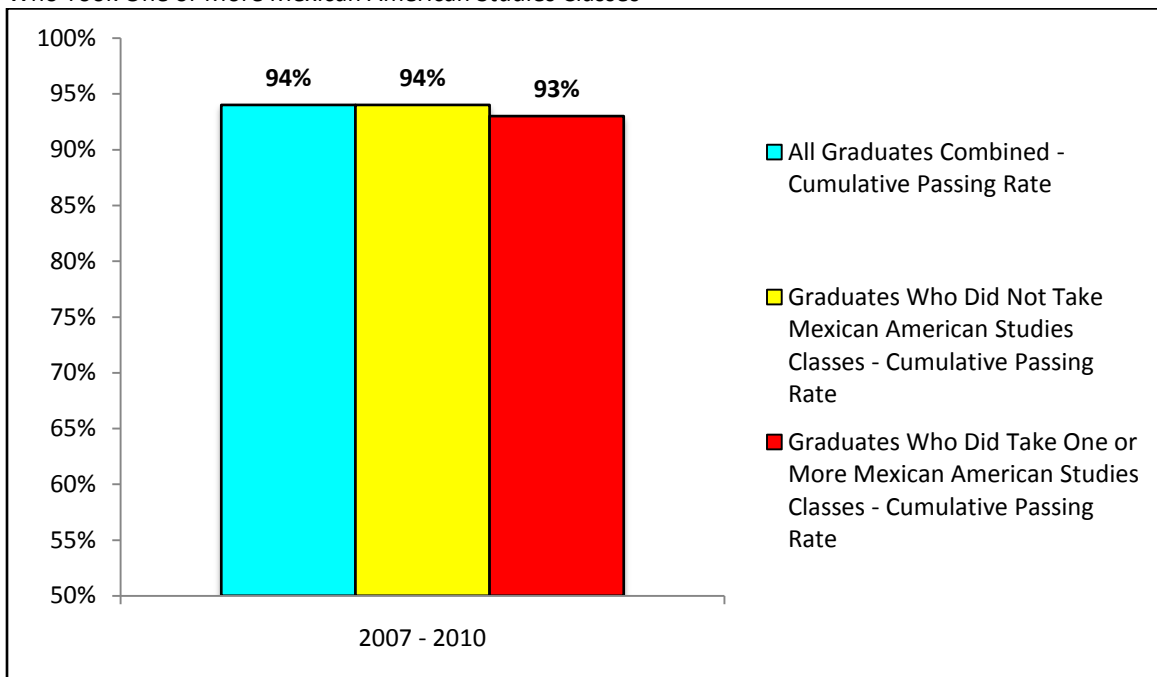
Furthermore, “Graduates Who Took One or More Mexican American Studies Classes” on their AIMS Writing “Initial Passing Rate” passed at 12% less than “All Graduates Combined” and 13% lower than less than “Graduates Who Did Not Take Mexican American Studies Classes.” Also important to note is that the data on the “Initial Passing Rate” demonstrates that students coming in to MAS classes during their 11th grade year

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are the lowest performing group of students in the district within this comparative analysis.

Graph 5 below illustrates the four-year average, 2007-2010, of the “**Cumulative Passing Rate**” on the AIMS Writing Test for: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

Graph 5. **2007-2010 AIMS WRITING TEST - 4 YEAR AVERAGE - CUMULATIVE PASSING RATE** of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



RESULTS for 2007 – 2010 AIMS WRITING TEST: CUMULATIVE PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four-year average for the 2007-2010 academic years for the AIMS Writing “Cumulative Passing Rate” of the three cohort groups are as follows: “All Graduates Combined,” 94%; “Graduates Who Did Not Take Mexican American Studies Classes,” 94%; and “Graduates Who Took One or More Mexican American Studies Classes,” 93%.

The AIMS Writing “Cumulative Passing Rate” for “Graduates Taking One or More Mexican American Studies Classes” demonstrates a “**closing of the academic achievement gap**” which is substantial given that MAS students had an “Initial Passing

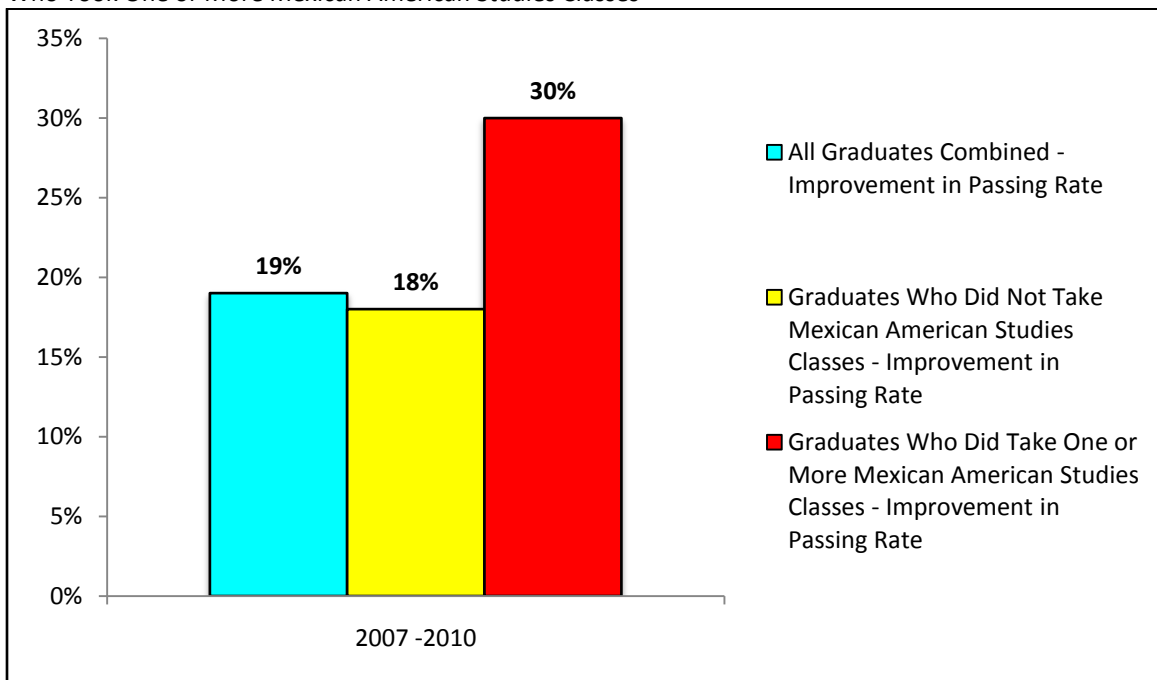
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Rate” significantly lower (-12% and -13% respectively) than their comparative cohort groups.

Moreover, for the 2008 cohort year for “Cumulative Passing Rate” on AIMS Writing, “Graduates Who Took One or More Mexican American Studies Classes” not only closed the achievement gap, but also had an outcome that resulted in a +1% inversion of the achievement gap in comparison to both groups.

Graph 6 below illustrates the four-year average, 2007-2010, of the “**Improvement Passing Rate**” on the AIMS Writing Test for: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

Graph 6. **2007-2010 AIMS WRITING TEST - 4 YEAR AVERAGE – IMPROVEMENT IN PASSING RATE** of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



RESULTS of 2007 – 2010 AIMS WRITING TEST - IMPROVEMENT IN PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four-year average for the 2007-2010 academic years for **actual** “Improvement in Passing Rate” on the AIMS Writing Test of the three cohort groups are as follows: “All Graduates Combined,” 19%; “Graduates Who Did Not Take Mexican American Studies Classes,” 18%; and “Graduates Who Took One or More Mexican American Studies Classes,” 30%.

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While it should be noted that for the 2007-2010 AIMS Writing: “All Graduates Combined” had a **possible improvement in passing rate of 25 percentage points** (Initial Passing Rate of 75%); “Graduates Who Did Not Take Mexican American Studies Classes” had a **possible improvement in passing rate of 24 percentage points** (Initial Passing Rate of 76%); and “Graduates Who Took One or More Mexican American Studies Classes” had a **possible improvement in passing rate of 37 percentage points** (Initial Passing Rate of 63%) – “Graduates Who Took One or More Mexican American Studies Classes” had a **rate of improvement** (Actual Rate of Improvement / Possible Improvement in Passing Rate) **that was 81%** compared to “All Graduates Combined” rate of improvement of 74% and “Graduates Who Did Not Take Mexican American Studies Classes” rate of improvement of 75%.

Table 7. 2007-2010 - AIMS Writing Rate of Improvement for: “All Groups Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes”

Cohort	Initial Passing Rate	Possible Improvement in Passing Rate	Actual Improvement in Passing Rate	Rate of Improvement	Difference (+/-) MAS – Non MAS
All Graduates Combined (ACG)	75%	23%	19%	74%	(-) 7%
Graduates Who Did Not Take Mexican American Studies Classes (NonMAS)	76%	24%	18%	75%	(-) 6%
Graduates Who Took One or More Mexican American Studies Classes	63%	37%	30%	81%	(+)7% more than (ACG) (+)6% than more (NonMAS)

Possible Improvement in Passing Rate is determined by the following equation: (100% - Initial Passing Rate)
Actual Improvement in Passing Rate is calculated as follows: (Cumulative Passing Rate – Initial Passing Rate)
Rate of Improvement is calculated as follows: (Actual Improvement in Passing Rate / Possible Improvement in Passing Rate)

AIMS Math Comparative Analysis

Table 8 below illustrates the “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**All Graduates Combined**” on the AIMS Math Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Math Test in “Initial Passing Rate,” “Cumulative Passing Rate,” and “Improvement in Passing Rate” for “**All Graduates Combined.**”

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Table 8. AIMS MATH Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of <i>All Graduates Combined</i>				
		MATH		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	3147	75%	90%	15%
2009	3163	71%	89%	18%
2008	3281	70%	89%	19%
2007	3467	69%	88%	19%
4 Year Average		71%	89%	18%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix "AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year)

Table 9 below illustrates the "Initial Passing Rate," "Cumulative Passing Rate," and "Improvement in Passing Rate" for "**Graduates Who Did Not Take Mexican American Studies Classes**" on the AIMS Math Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Math Test in "Initial Passing Rate," "Cumulative Passing Rate," and "Improvement in Passing Rate" for "**Graduates Who Did Not Take Mexican American Studies Classes.**"

Table 9. AIMS MATH Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of <i>Graduates Who Did Not Take Mexican American Studies Classes</i>				
		MATH		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	2757	77%	90%	13%
2009	2798	72%	89%	16%
2008	2874	72%	88%	17%
2007	3169	71%	88%	17%
4 Year Average		73%	89%	16%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix "AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year)

Table 10 below illustrates the "Initial Passing Rate," "Cumulative Passing Rate," and "Improvement in Passing Rate" for "**Graduates Who Took One or More Mexican American Studies Classes**" on the AIMS Math Test for the 2007-2010 academic years in TUSD. Furthermore, the bottom column illustrates the four-year average of the 2007-2010 academic years for the AIMS Math Test in "Initial Passing Rate," "Cumulative Passing Rate," and "Improvement in Passing Rate" for "**Graduates Who Took One or More Mexican American Studies Classes.**"

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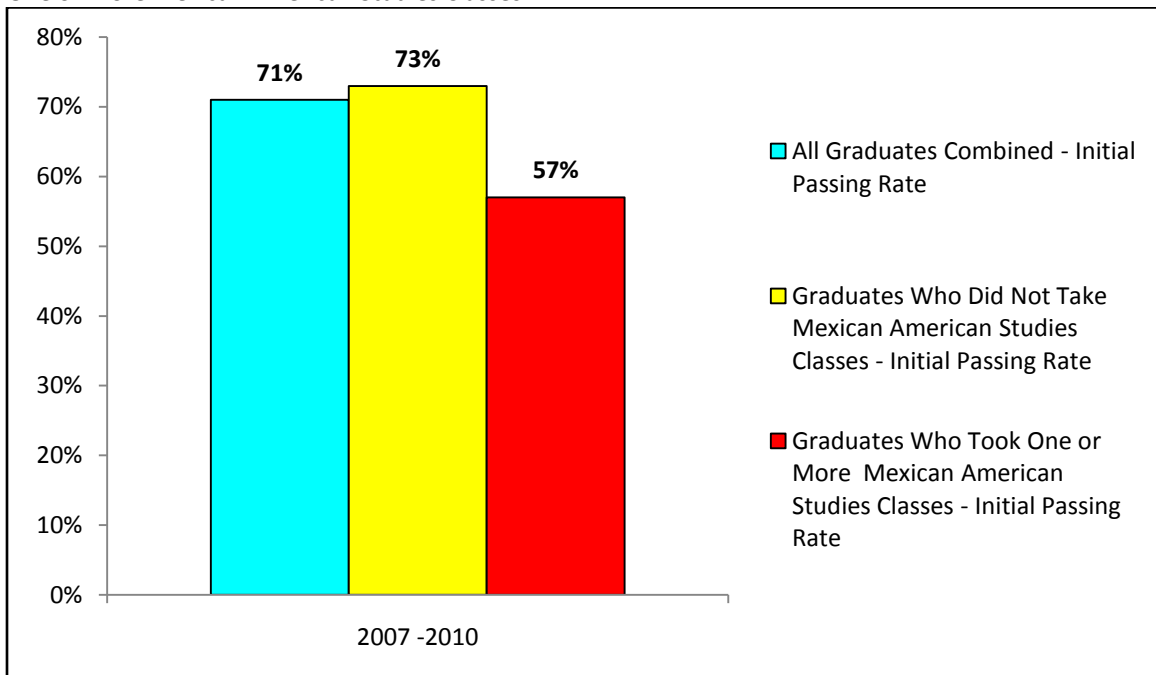
Table 10. AIMS MATH Test - Initial Passing Rate, Cumulative Passing Rate, and Improvement in Passing Rate of *Graduates Who Took One or More Mexican American Studies Classes*

Graduation Cohort	Number Tested	MATH		
		Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2010	306	61%	86%	25%
2009	268	60%	89%	29%
2008	362	57%	90%	33%
2007	252	51%	85%	34%
4 Year Average		57%	88%	30%

* Data Collected January 6, 2011 by TUSD Department of Accountability and Research (See Appendix "AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes – Initial Passing Rates Versus Cumulative Passing Rates by AIMS Subject and Cohort Year)

Graph 7 below illustrates the four-year average, 2007-2010, of the “**Initial Passing Rate**” on the AIMS Math Test for: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

Graph 7. 2007-2010 AIMS MATH TEST - 4 YEAR AVERAGE - INITIAL PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



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RESULTS for 2007 – 2010 AIMS MATH TEST: INITIAL PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four-year average of the 2007 – 2010 academic years for the AIMS Math “Initial Passing Rate” of the three cohort groups are as follows: “All Graduates Combined,” 71%; “Graduates Who Did Not Take Mexican American Studies Classes,” 73%; and “Graduates Who Took One or More Mexican American Studies Classes,” 57%.

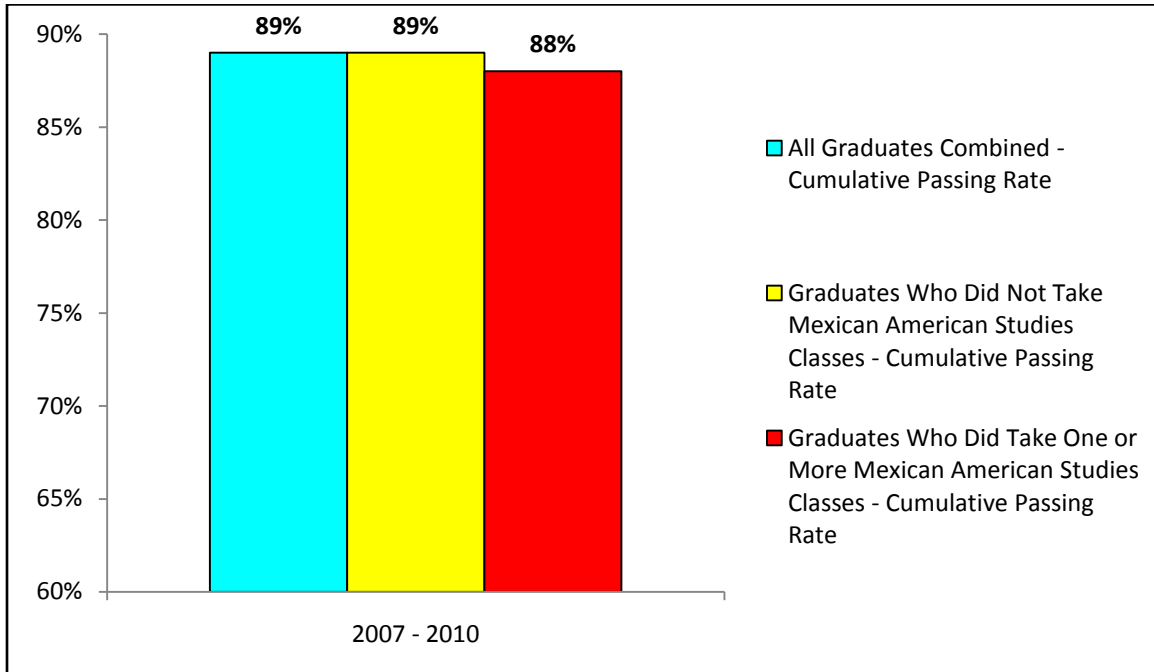
It is important to note that for the AIMS Math “Initial Passing Rate” of “Graduates Who Took One or More Mexican American Studies Classes,” this group of students had not yet taken MAS classes during their first opportunity to take the AIMS Test because the initial opportunity to take the AIMS Test is during the Spring semester of students’ 10th grade year. Mexican American Studies classes are not offered until the 11th grade year. Moreover, MAS do not offer courses in Math.

Furthermore, “Graduates Who Took One or More Mexican American Studies Classes” on their AIMS Math “Initial Passing Rate” passed at 14% less than “All Graduates Combined” and 16% lower than less than “Graduates Who Did Not Take Mexican American Studies Classes.” Also important to note is that the data on the “Initial Passing Rate” demonstrates that students coming in to MAS classes during their 11th grade year are the lowest performing group of students in the district within this comparative analysis.

Graph 8 below illustrates the four-year average, 2007-2010, of the “**Cumulative Passing Rate**” on the AIMS Math Test for: “All Graduates Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

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Graph 8. **2007-2010 AIMS MATH TEST - 4 YEAR AVERAGE - CUMULATIVE PASSING RATE** of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



RESULTS for 2007 – 2010 AIMS MATH TEST: CUMULATIVE PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four-year average for the 2007-2010 academic years for the AIMS Math “Cumulative Passing Rate” of the three cohort groups are as follows: “All Graduates Combined,” 89%; “Graduates Who Did Not Take Mexican American Studies Classes,” 89%; and “Graduates Who Took One or More Mexican American Studies Classes,” 88%.

The AIMS Math “Cumulative Passing Rate” for “Graduates Taking One or More Mexican American Studies Classes” demonstrates a **“closing of the academic achievement gap”** which is substantial given that MAS students had initial passing rates significantly lower (-12% and -13% respectively) than their comparative cohort groups.

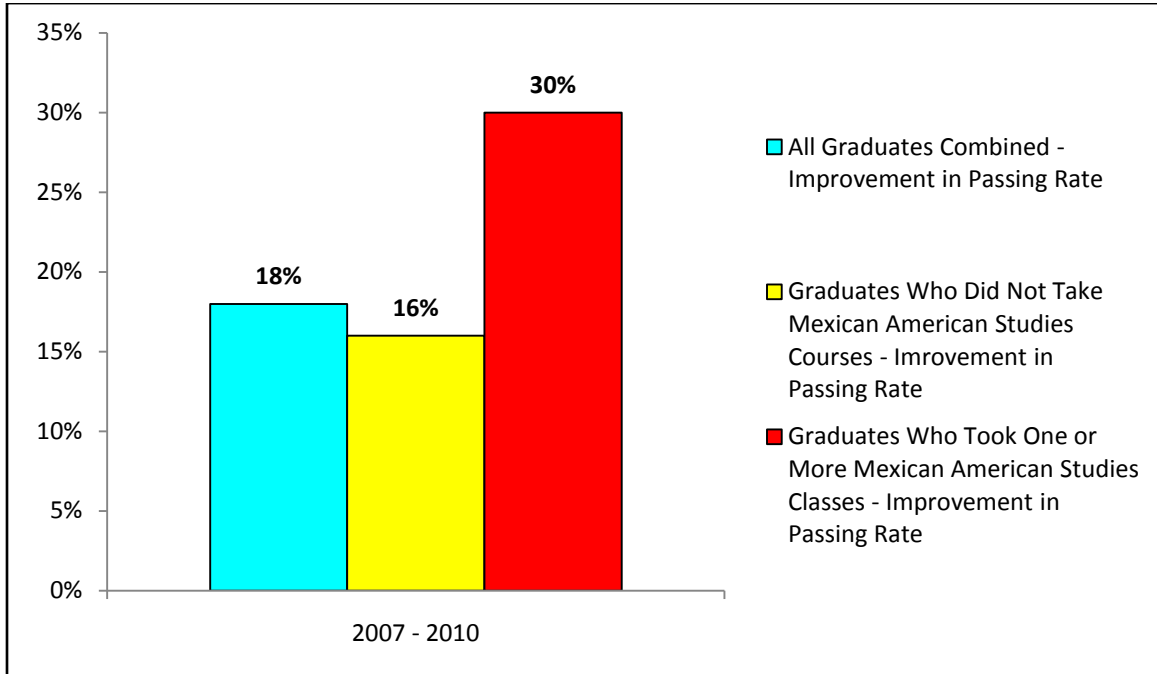
Moreover, for the “Cumulative Passing Rate” for the 2008 cohort year on AIMS Math, “Graduates Who Took One or More Mexican American Studies Classes” not only closed the achievement gap, but also had an outcome that resulted in a +1% inversion of the achievement gap in comparison to both cohort groups. Additionally, MAS does not offer courses in Math.

Graph 9 below illustrates the four-year average, 2007-2010, of the **“Improvement in Passing Rate”** on the AIMS Math Test for: “All Graduates Combined”;

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“Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes.”

Graph 9. **2007-2010 AIMS MATH TEST - 4 YEAR AVERAGE – IMPROVEMENT IN PASSING RATE** of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes



RESULTS of 2007 – 2010 AIMS MATH TEST - IMPROVEMENT IN PASSING RATE of All Graduates Combined, Graduates Who Did Not Take Mexican American Studies Classes, and Graduates Who Took One or More Mexican American Studies Classes

The four-year average for the 2007-2010 academic years for **actual** “Improvement in Passing Rate” in the AIMS Math Test of the three cohort groups are as follows: “All Graduates Combined,” 18%; “Graduates Who Did Not Take Mexican American Studies Classes,” 16%; and “Graduates Who Took One or More Mexican American Studies Classes,” 30%.

While it should be noted that for the 2007-2010 AIMS Math: “All Graduates Combined” had a **possible improvement in passing rate of 29 percentage points** (Initial Passing Rate of 71%); “Graduates Who Did Not Take Mexican American Studies Classes” had a **possible improvement in passing rate of 27 percentage points** (Initial Passing Rate of 73%); and “Graduates Who Took One or More Mexican American Studies Classes” had a **possible improvement in passing rate of 43 percentage points** (Initial Passing Rate of 57%) – “Graduates Who Took One or More Mexican American Studies Classes” had a **rate of improvement** (Actual Rate of Improvement / Possible

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Improvement in Passing Rate) **that was 70%** compared to “All Graduates Combined” rate of improvement of 62% and “Graduates Who Did Not Take Mexican American Studies Classes” rate of improvement of 59%.

Table 11. **2007-2010 - AIMS Math Rate of Improvement** for: “All Groups Combined”; “Graduates Who Did Not Take Mexican American Studies Classes”; and “Graduates Who Took One or More Mexican American Studies Classes”

Cohort	Initial Passing Rate	Possible Improvement in Passing Rate	Actual Improvement in Passing Rate	Rate of Improvement	Difference (+/-) MAS – Non MAS
All Graduates Combined (ACG)	71%	29%	18%	62%	(-) 8%
Graduates Who Did Not Take Mexican American Studies Classes (NonMAS)	73%	27%	16%	59%	(-) 11%
Graduates Who Took One or More Mexican American Studies Classes	57%	43%	30%	70%	(+)8% more than (ACG) (+)11% than more (NonMAS)

Possible Improvement in Passing Rate is determined by the following equation: (100% - Initial Passing Rate)

Actual Improvement in Passing Rate is calculated as follows: (Cumulative Passing Rate – Initial Passing Rate)

Rate of Improvement is calculated as follows: (Actual Improvement in Passing Rate / Possible Improvement in Passing Rate)

The “Improvement in Passing Rate” in AIMS Math for “Graduates Who Took One or More Mexican American Studies Classes” represents a growth that is substantially greater their two comparison cohort groups. Additionally, MAS does not offer courses in Math.

IMPLICATIONS/CONSIDERATIONS

The data analysis within the **AIMS Achievement Comparison for Students Taking One or More Mexican American Studies Classes – Initial Passing Rate Versus Cumulative Passing Rate by AIMS Subjects and Cohort Year** clearly illustrates that MAS students at minimum **“close the academic achievement gap”** and make improvements in AIMS that exceed their peers over the four consecutive academic years of 2007 - 2010.

A consideration that these AIMS outcomes occur within a context wherein Latino students are the second lowest academically achieving student demographic in TUSD and the fact that Latino students comprise the majority of students in MAS classes make the AIMS outcomes and improvement rate compelling as to the educational efficacy of MAS classes.

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Moreover, in light of the demographic trajectory in which Latino students are quickly approaching 70% of TUSD schools and in combination with the persistent achievement gap between Latino and White/Anglo students in TUSD, it is imperative that TUSD be responsive to address this achievement gap. In a highly effective and consistent manner, Mexican American Studies has clearly been able to **“close the achievement gap”** as evidenced in the TUSD Accountability & Research’s – January 6, 2001 (Table 1 – Table 9; Graph 1 – Graph 9; Appendix 1) data set and the accompanying analysis within this paper.

Considering that these significant and favorable AIMS outcomes for MAS students transpire within the context of schools where MAS classes are offered that have a significantly higher percentage of students who qualify for “Free & Reduced Lunch,” these AIMS outcomes and Improvement in Passing Rate demonstrate further evidence as to the efficacy of MAS classes (See Table 12 below). Furthermore, Latino students comprise the majority of students who qualify for “Free & Reduced Lunch” throughout TUSD schools and comprise the majority of students in MAS classes.

As a means to provide further insight into MAS class impact on AIMS outcomes, a school by school analysis (example: comparing MAS student AIMS outcomes to non-MAS student AIMS outcomes at the school sites where MAS classes are offered) would control for the stark contrasts in socio-economic level disparities between TUSD high schools where MAS classes are offered (low socio-economic levels) with that of TUSD high schools where MAS classes are not offered (substantially higher socio-economic levels). Specifically, an assessment of AIMS outcomes at high school sites where MAS courses were offered during the 2007-2010 academic years – Catalina, Cholla, Pueblo, Rincon, and Tucson High Schools where students qualified at 30% for Free & Reduced Lunch – compared to AIMS outcomes at high school sites where MAS classes were not offered – Palo Verde, Sahuaro, Sabino, Santa Rita and University High Schools where students qualified at 64% for Free & Reduced Lunch would provide additional valuable insight into the efficacy of MAS classes. (See Table 12 below)

Table 12. Percentage of Students at TUSD High Schools Qualified for Free & Reduced Lunch for the 2010-2011 Academic Year										
Academic Year	Catalina Magnet High School	Cholla High Magnet School	Pueblo Magnet High School	Rincon High School	Tucson High Magnet School	Palo Verde High Magnet School	Sahuaro High School	Sabino High School	Santa Rita High School	University High School
2010-2011	71.4%	67.2%	72.0%	55.0%	52.0%	60.0%	26.3%	9.3%	39.9%	15.6%

Furthermore, it is important to identify other educational programs in TUSD, both traditional and specialized, to analyze the impact they have on AIMS outcomes for Latino students and compare that to the impact that MAS classes have on AIMS

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outcomes of Latino students. The critical question is ***“What other programs in TUSD have a positive impact on the academic achievement of Latino students as do MAS classes?”*** In view of the fact that Latino students are the second lowest performing group in TUSD combined with the demonstrated closing of the achievement gap by MAS students, such an analysis would illustrate the effectiveness that all educational programs have on TUSD’s largest and second lowest achieving student population.

Lastly, a disaggregated look by ethnicity at the ***AIMS Achievement Comparison for Students Taking One or More Mexican American Studies Classes – Initial Passing Rate Versus Cumulative Passing Rate by AIMS Subjects and Cohort Year*** data set would illustrate the positive academic impact MAS classes have on Latino students who took MAS classes compared to Latino students who did not take MAS classes, the student group that constitutes the second lowest achieving student group in TUSD.

CONCLUSION

In a time where urban public school districts are searching for effective educational models, effective curricula, and effective pedagogical approaches to meet the needs of their most underserved and lowest achieving students, the TUSD Mexican American Studies Department has been highly effective and consistent in meeting the academic needs of Latinos, one of the district’s most underserved and lowest achieving student groups.

Through maintaining the following MAS high school classes - American Government/Social Justice Education Project 1, 2; American History/Mexican American Perspectives 1, 2; Latino Literature 7, 8; and Latino Literature 5, 6 – in its current structure as CORE classes that fulfill the students’ graduation requirements for American Government, American History, and 11th and 12th grade English, this structure will continue to create equitable educational opportunities for TUSD students. Additionally this current structure of class offerings will continue to afford students unique and innovative educational opportunities to replicate and even improve upon the irrefutable increase in AIMS “Cumulative Passing Rate” wherein ***“the achievement gap is closed”*** as well as AIMS “Improvement in Passing Rate” as clearly demonstrated in the above comprehensive analysis. ***If MAS classes were either ineffective or just as effective as other “traditional” TUSD classes, one would expect these gaps to persist through cumulative passing rates. Instead, the data clearly illustrates the closing of the achievement gap, a substantial indicator of the efficacy of MAS classes. In order for MAS students to perform on par with non-MAS students (“Graduates Who Did Not Take Mexican American Studies Classes”), MAS students actually have “over performed” to achieve equity relative to academic achievement.***

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Any change in the current structure of MAS course offerings as CORE classes will certainly eliminate data driven and data proven equitable educational opportunities that have been provided to students in MAS classes that have resulted both in the increase in academic achievement as well as the closing of the achievement gap. A change in structure of MAS course offerings will certainly have deleterious effects to include:

- 1) the elimination of student incentive to take MAS classes because students, particularly Latino students who have traditionally struggled to graduate and who are second to Native American students with highest dropout rate in TUSD (<http://tusdstats.tusd.k12.az.us/paweb/aggD/graduation/DropOut.aspx>), would not take the additional courses and “double up” for additional History and English classes.
- 2) sending the message to Latino students, parents and community that MAS courses, which highlight the historical and cultural contributions that Latinos (while simultaneously covering the traditional state standards) have made to the United States are not worthy of study as Social Studies and English classes sufficient to count as CORE credit.
- 3) a severe regression and setback on the tremendous gains that the Mexican American/Latino community and MAS has made to counter the pervasive Latino student population as being traditionally underserved and underperforming. Any such structural change in course offerings will certainly reset the Mexican American/Latino historical, cultural and lived experiences back to the margins and not at the center of curriculum and instruction, a practice that has traditionally failed Latino students in TUSD.
- 4) the removal of a highly specialized educational program, that are found in MAS courses as CORE classes, that has consistently met the academic needs of the second lowest performing and largest student population in TUSD.

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Appendix 1

*“AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes
Initial Passing Rate Versus Cumulative Passing Rate by AIMS Subject and Cohort Year -
January 6, 2011”*

**Comparative Passing Rates for
MAS Students & Non-MAS Students on AIMS Test
2007 to 2010 Academic Years**

Tucson Unified School District

Department of Accountability and Research

January 6, 2011

**AIMS Achievement Comparison for Students Taking One or More Ethnic Studies Classes
Initial Passing Rate Versus Cumulative Passing Rate by AIMS Subject and Cohort Year**

All Graduates Combined

		Math			Reading			Writing		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2007	3467	69%	88%	19%	75%	93%	18%	77%	94%	17%
2008	3281	70%	89%	19%	75%	92%	17%	68%	93%	24%
2009	3163	71%	89%	18%	78%	93%	16%	79%	93%	14%
2010	3147	75%	90%	15%	78%	94%	15%	74%	95%	21%

Graduates Who Did Not Take Ethnic Studies Classes

		Math			Reading			Writing		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2007	3169	71%	88%	17%	77%	93%	16%	78%	94%	16%
2008	2874	72%	88%	17%	77%	92%	15%	70%	93%	23%
2009	2798	72%	89%	16%	79%	93%	14%	80%	93%	13%
2010	2757	77%	90%	13%	80%	94%	14%	75%	95%	20%

Graduates Who Took One or More Ethnic Studies Classes - All Classes Combined

		Math			Reading			Writing		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2007	298	51%	85%	34%	58%	91%	32%	61%	94%	32%
2008	407	57%	91%	34%	63%	94%	31%	58%	95%	37%
2009	365	59%	90%	31%	65%	93%	28%	70%	92%	22%
2010	390	63%	87%	24%	67%	93%	26%	67%	95%	28%

Graduates Who Took One or More Ethnic Studies Classes - Mexican American Studies Focus Only

		Math			Reading			Writing		
Graduation Cohort	Number Tested	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate	Initial Passing Rate	Cumulative Passing Rate	Improvement in Passing Rate
2007	252	51%	85%	34%	56%	90%	34%	61%	93%	32%
2008	362	57%	90%	33%	62%	94%	31%	57%	94%	38%
2009	268	60%	89%	29%	65%	92%	27%	68%	91%	23%
2010	306	61%	86%	25%	66%	92%	26%	65%	93%	28%