

ALAMEDA UNIFIED SCHOOL DISTRICT  
BOARD AGENDA ITEM

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<b>Item Title:</b>	Evaluation of District Math Initiative
<b>Item Type:</b>	Information
<b>Background:</b>	Alameda Unified School District has embarked on a K-12 mathematics initiative to strengthen and develop our mathematics instruction. Phil Gonsalves and Drew Kravin, Mathematics Coordinators from the West Contra Costa County Office of Education, embrace the District's theory of action around the use of formative assessments to mitigate instruction. Tonight staff will be sharing an evaluation and overview of AUSD's math initiative tonight to explain the District's work in this regard.
<b>Goals:</b>	Raise the bar
<b>Fiscal Analysis:</b>	
<b>Amount (Savings) (Cost):</b>	Not Applicable
<b>Department Budget:</b>	Not Applicable
<b>Recommendation:</b>	This item is presented for information only.
<b>AUSD Guiding Principle:</b>	#1 - All students have the ability to achieve academic and personal success.   #2 - Teachers must challenge and support all students to reach their highest academic and personal potential.
<b>Submitted By:</b>	Sean McPhetridge, Assistant Superintendent

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**ATTACHMENTS:**

Name:

Description:

 [PP Evaluation of District Math Initiative 03-13-12.ppt](#)

Evaluation of District Math Initiative

# **AUSD Math Initiative**

## **Report on AUSD's Focus on Math Spanning Grades K to Algebra 1**

**March 13, 2012**

# AUSD Math Initiative

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## Components:

1. Coaching
2. Professional development for K-Algebra 1 teachers
3. K-5 and 6-12 administrators: sessions on math content and best practices during AUSD Instructional Leadership meetings led by Phil Gonsalves
4. Summer Math Programs for struggling students:
  - 4<sup>th</sup> graders entering 5<sup>th</sup> grade (one week)
  - 5<sup>th</sup> graders entering 6<sup>th</sup> grade (one week)
  - At-risk 7<sup>th</sup> & 8<sup>th</sup> graders entering Algebra 1 (four weeks)
  - At-risk 8<sup>th</sup> & 9<sup>th</sup> graders entering Geometry (four weeks)

# Coaching

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**2008-2009:** Fifteen 4<sup>th</sup> and 5<sup>th</sup> grade teachers who attended the SIMI 2 Summer Institute were supported by one coach; no middle school coach; part time high school coach

**2009-2010:** Thirty 4<sup>th</sup> and 5<sup>th</sup> teachers who attended the SIMI 2 Summer Institute were supported by two coaches; 1 middle school and 1 high school coach

**2010-2011:** ALL AUSD 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade teachers are supported by 4.5 math coaches; 1 middle school and 1 high school coach

# **Component 1: Coaching 2011-12**

- ❖ **Elementary Schools: 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade teachers have access to a trained and supported Math Coach.**
- ❖ **Middle Schools: 6<sup>th</sup>, 7<sup>th</sup> and Algebra 1 math teachers have a math coach. Some support is also provided to middle school Geometry teachers.**
- ❖ **High School: Algebra 1 teachers have a coach. Some support is also provided to high school Geometry teachers.**

# **Component 1: Coaching 2011-12**

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- **Coaches collaborate on lesson planning and provide feedback after classroom visits, demonstrations of model lessons and materials support.**
- **Coaches provide after school professional development sessions for teachers as well as Saturday sessions two times this year.**
- **Coaches also work on and monitor pacing guides, proofing math benchmarks and creating study guides before assessments.**

## **Component 2: Professional Development**

- **This school year 2011-2012, we have greatly increased the amount of professional development for teachers in AUSD, both after school and half or full day at sites.**
- **All math teachers in grades K-Algebra 1 will have 4 opportunities to participate in paid after school professional development to learn math best practices and engage in professional dialogue with colleagues.**

# Staff Development Days 2011-2012

Date	Grades	Site(s)	Staff Names
Aug. 23	2/3	Haight/Paden	Jim, Therese
Aug. 23	4/5	Haight/Paden	Katherine, Aimée
Aug. 23	2/3	Otis/Edison	Katherine
Aug. 23	4/5	Otis/Edison	Aimée
Aug. 23	2/3	Washington	Therese
Aug. 23	4/5	Washington	Jim



## After School PD Sessions 2011-2012

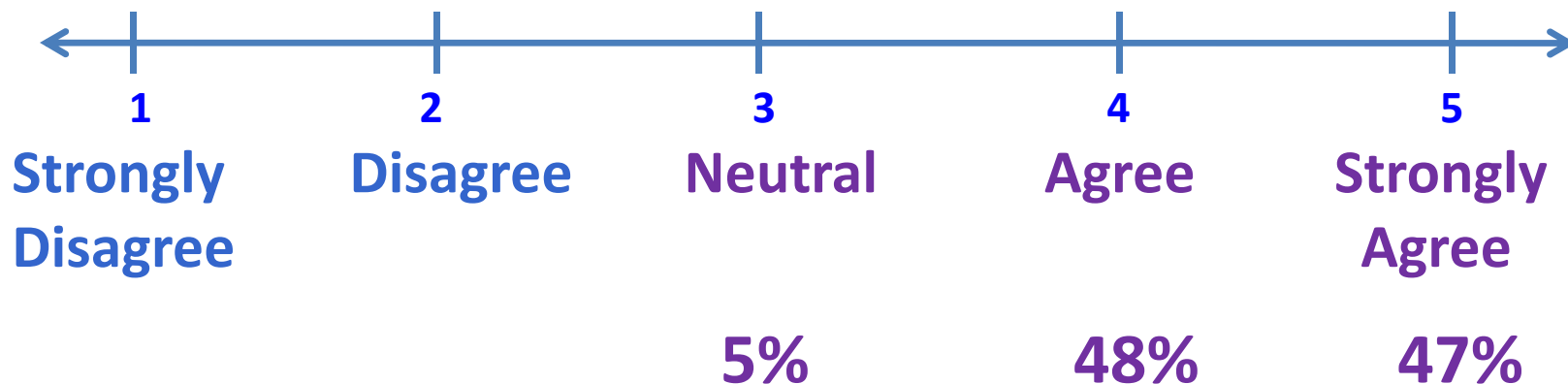
Date	Grades	Staff Names	Participant Numbers
Jan. 10	3-5	Katherine, Aimée, Jim, Therese	44 teachers , 11 schools
Jan. 19	K-2	Katherine, Aimée, Jim, Therese	47 teachers, 10 schools
Jan. 24	K-5 (Washington)	Therese, Jim, Aimée	12 teachers, 5 Paraprofessionals , 1 school
Jan. 24	6-7	Eric, Hilda	9 teachers, 3 schools
Jan. 31	Algebra	Eric, Hilda	15 teachers, 5 schools
Feb. 7	6-7	Eric, Hilda	8 teachers, 4 schools
Feb. 23	K-2	Katherine, Aimée, Jim, Therese	19 teachers, 9 schools
Feb. 28	Algebra	Eric, Hilda	13 teachers, 5 schools
March 1	3-5	Katherine, Aimée, Jim, Therese	32 teachers, 11 schools
March 13	6-7	Eric, Hilda	
March 22	K-2	Katherine, Aimée, Jim, Therese	
March 27	Algebra	Eric, Hilda	
March 29	3-5	Katherine, Aimée, Jim, Therese	
April: TBA	K-2, 3-5, 6-7, Alg 1		

## Component 2: Professional Development

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- On the evaluations, teachers responded on a scale of 1-5 (1 being strongly disagree and 5 being strongly agree) to the following:

I deepened and/or refreshed my mathematics content knowledge.

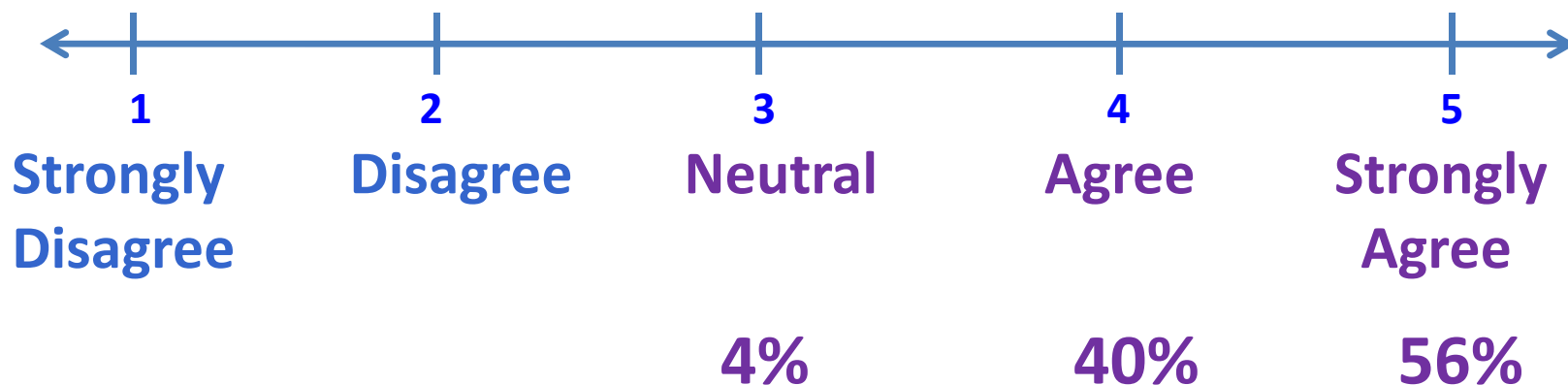


## Component 2: Professional Development

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- On the evaluations, teachers responded on a scale of 1-5 (1 being strongly disagree and 5 being strongly agree) to the following:

I learned and/or reviewed some useful teaching strategies.



# **Component 2: Professional Development**

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## **Response from evaluations about what was helpful or worked well:**

- Vocabulary used and many ways to show answers
- Everything! Loved the progression and step by step ideas
- The methodical method that taught multiple methods
- Number line, bar models, equivalency of one
- Modeling hands on is a great refresher plus is a great lead in to what was covered. Examples were clear and easy to understand
- I appreciate the review of strategies and learning 2 new ones
- Even though I've attended several math PDs in recent years, I appreciate that I learned new things
- 'You trys' and partner talk helped me work through my misunderstandings and internalize the methods
- It was helpful learning about warm-ups. I'm planning to use them in class more frequently.

## **Component 2: Professional Development**

**In addition to the previously listed professional development opportunities, sites have had professional development activities tailored to their site-specific needs:**

- Benchmark and data analysis**
- Parent University Night**
- Site-specific math content and best practices with Phil Gonsalves**

## Benchmark & Data Analysis Meetings

Date	School	Grade Level(s)	Staff Names
Nov. 29	Paden	3	Katherine, Therese
Dec. 2	Paden	4	Jim, Aimée
Dec. 12	Lum	3	Jim, Katherine
Dec. 13	Lum	4	Jim, Katherine
Dec. 14	Lum	5	Jim, Katherine
Dec. 14	Paden	5	Jim, Aimée
Jan. 10	Edison	4	Jim, Aimée
Jan. 10	Edison	5	Katherine, Aimée
Jan. 24	Edison	3	Katherine, Therese
Jan. 24	Washington	2/3	Jim
Jan. 24	Washington	4/5	Aimée
Jan. 26/27	Haight	K/1/3	Therese
Jan. 26/27	Haight	2/4/5	Aimée

## Parent University Nights

Date	School	Staff Names
Oct. 20	Lum	Katherine, Aimée, Therese, Eric
Nov. 3	Ruby Bridges	Katherine, Aimée, Therese, Jim
Jan. 9	Edison	Katherine, Aimée, Therese, Jim
Jan. 31	Bay Farm	Jim, Therese
Feb. 2	Otis	Katherine, Aimée, Therese, Eric
March 8	Paden/Washington	TBA
March 29	Lincoln	

## Site-Specific PD Support

Date	School	Description	Staff Names
Dec. 1	Bay Farm	ELAC	Therese
Jan. 23	AHS	Math Dept. Meeting PD	Phil/Hilda
Jan. 24	Paden	Grade 4 Intervention	Jim
Jan. 25	EHS	Math Dept. PD	Phil/Hilda
Jan. 31	Paden	Grade 4 Intervention	Jim
March 2	AHS	Math Dept. PD	Phil/Hilda



# **Component 3:**

## **Administrator Professional Development**

**Phil Gonsalves has come to the district instructional leadership meetings 5 times this year to provide PD in the following areas:**

- **Content Focus: increase participant math content knowledge**
- **Pedagogy: model best practices for math classes**
- **Learning Walks: lead administrators through classrooms to help calibrate instructional standards**
- **Define classroom “look-fors”**

# **Component 4: Summer Programs**

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**Math summer programs provide support for struggling students to master skills and concepts for success in the next grade:**

- **Math Summer Camps**

  - 4<sup>th</sup> graders entering 5<sup>th</sup> grade – one week**

  - 5<sup>th</sup> graders entering 6<sup>th</sup> grade – one week**

- **Math Achievement Academy (MAA)**

  - 7<sup>th</sup> and 8<sup>th</sup> graders going into Algebra 1**

  - 8<sup>th</sup> and 9<sup>th</sup> graders going into Geometry**

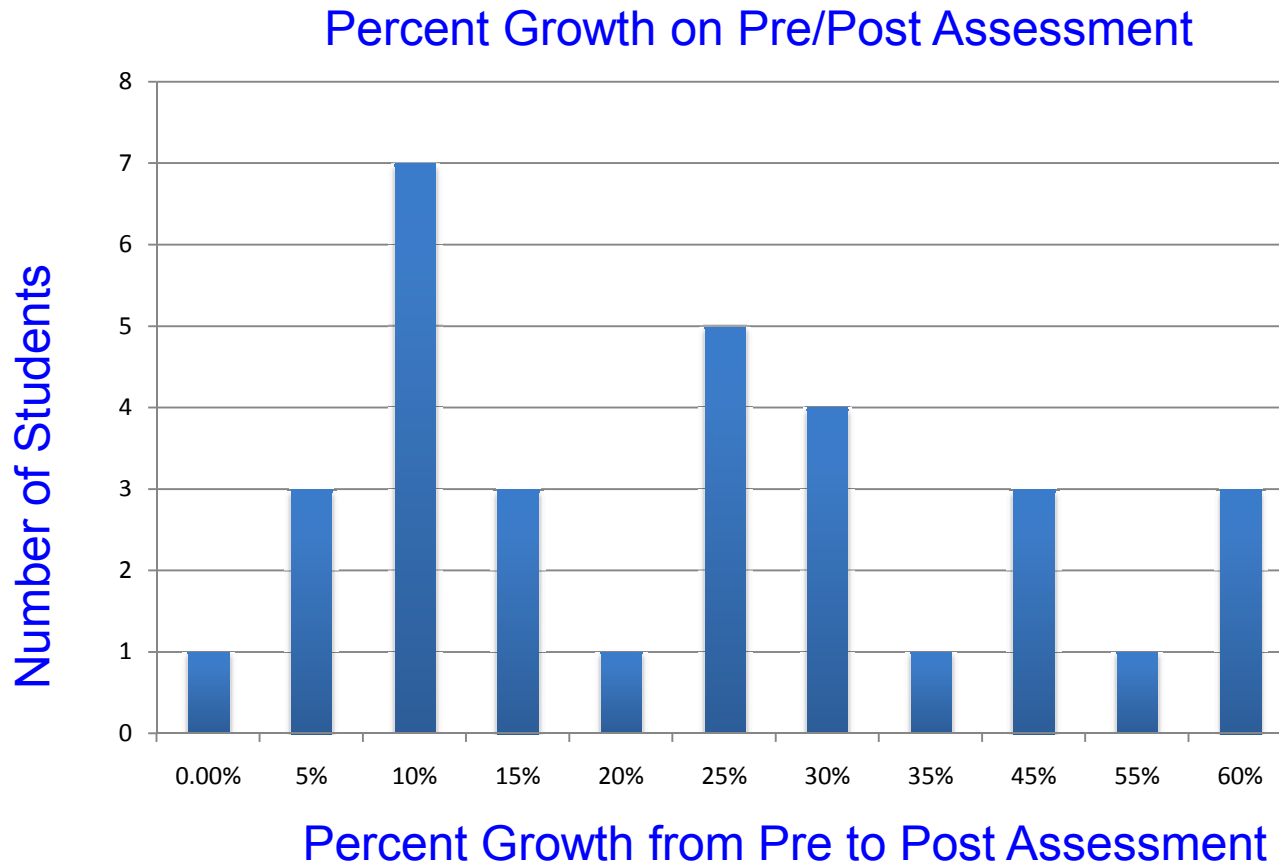
# **Elementary Math Camps**

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- **2010: 57 students participated in math summer camps for 4<sup>th</sup> graders entering 5<sup>th</sup> grade. Programs ran two times for one week each.**
- **2011: 84 students participated in summer math camps for 4<sup>th</sup> graders entering 5<sup>th</sup> grade and 5<sup>th</sup> graders entering 6<sup>th</sup> grade. Programs ran three times for one week each.**
- **The AUSD MAA program is provided at no cost to the district. AUSD provides space as well as clerical and placement support.**

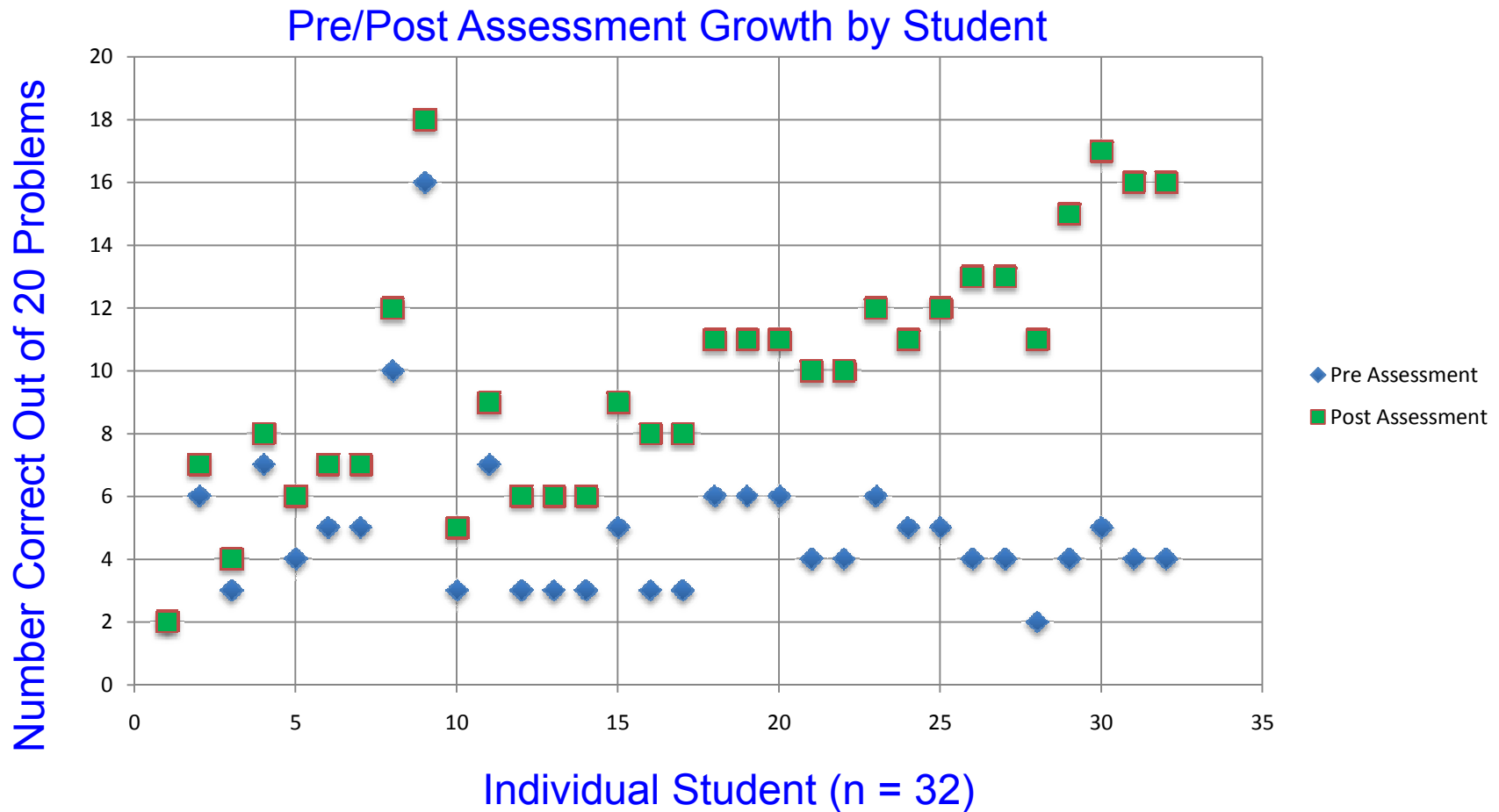
# AUSD Summer 2011 Summer 5-Day Mathematics Camp

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**Key Point:** The participating students' average percentage growth from Pre- to Post-Assessment was 26%.

# AUSD Summer 2011 Summer 5-Day Mathematics Camp



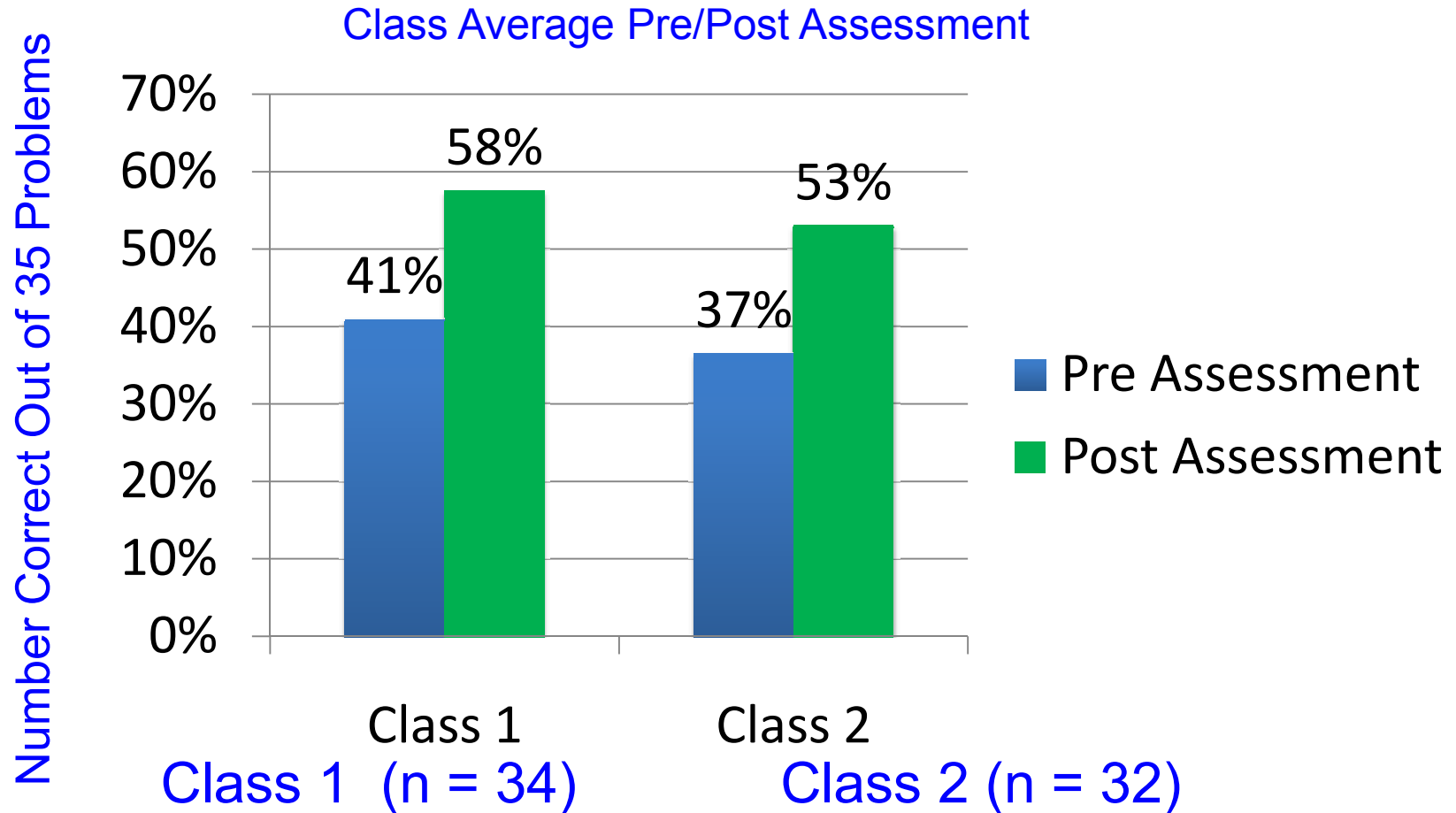
**Key Point: With 15 hours of intensive teaching, students improved their understanding of fractions.**

# **MAA (Math Achievement Academy)**

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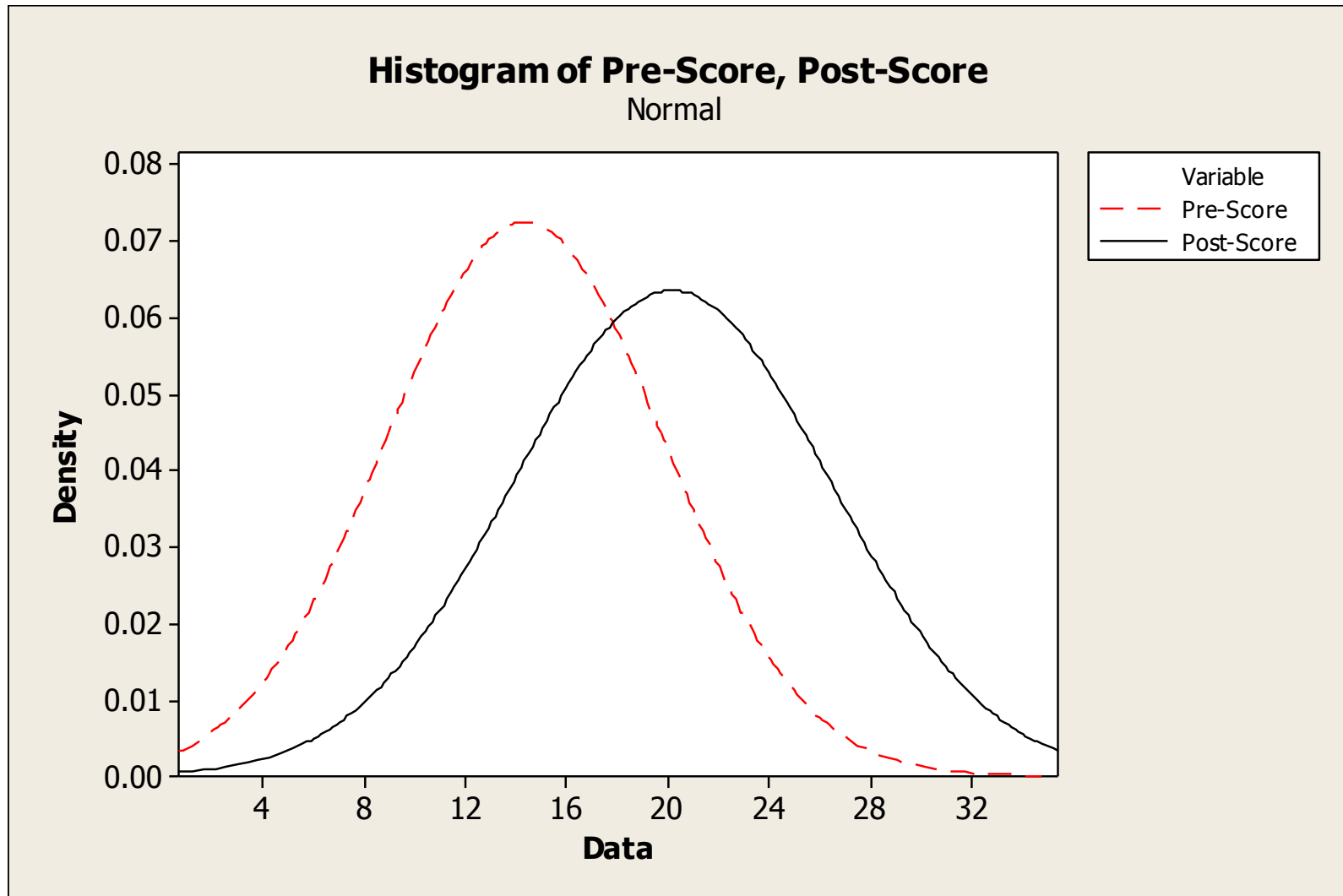
- 2010: Cohort I was composed of 40 AUSD incoming 9<sup>th</sup> grade students. They completed the 5-week summer 2010 Algebra Institute.**
- 2011: 31 students from Cohort 1 continued in the Geometry Institute; Cohort 2 consisted of 61 students starting the Algebra Institute.**
- The MAA program is provided at no cost to the district. AUSD provides space as well as clerical and placement support.**

# Mathematics Achievement Academy Algebra



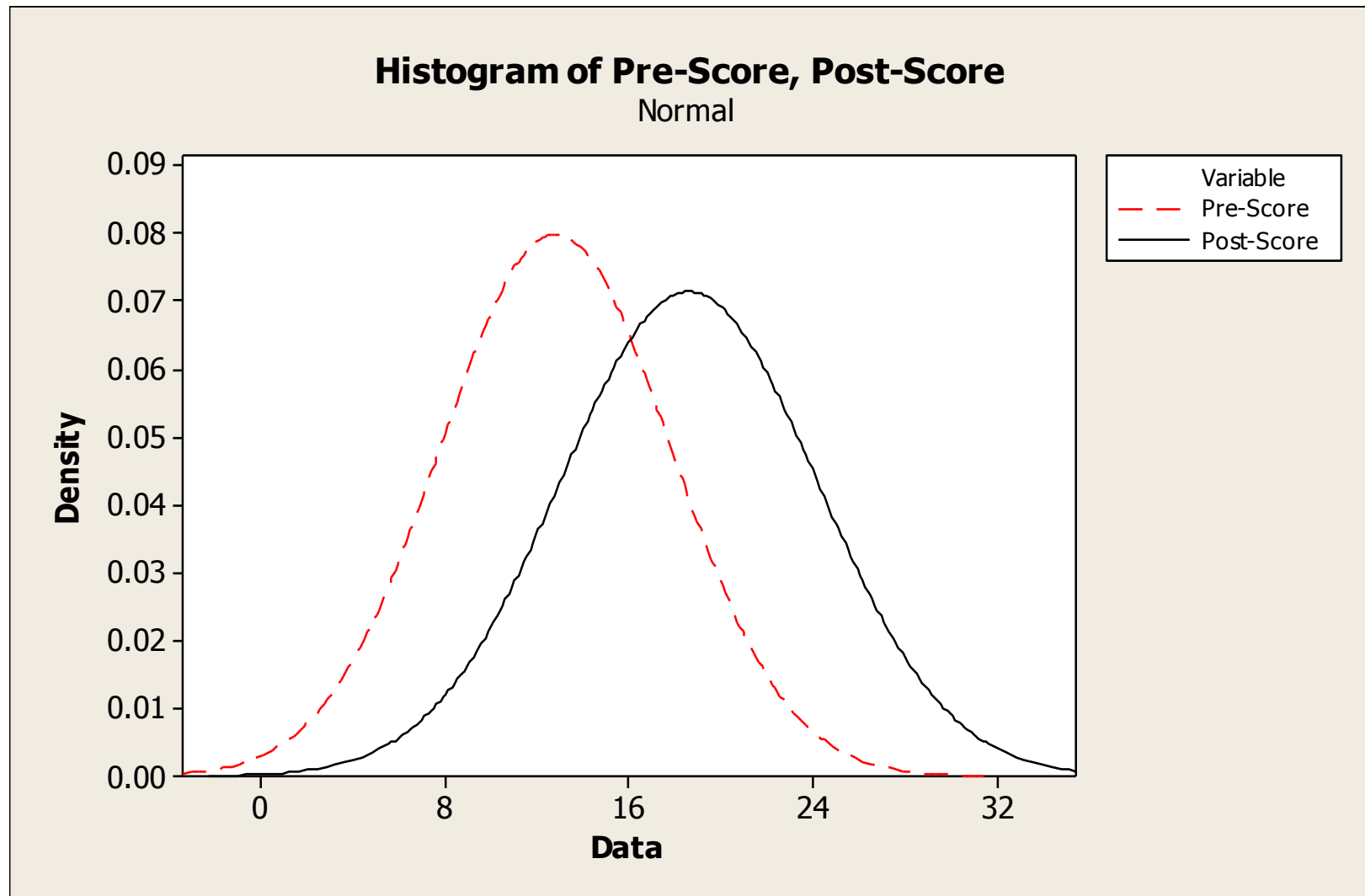
**Key Point: Students attending MAA Algebra 1 classes increased performance by 16-17%.**

# Mathematics Achievement Academy Algebra #1

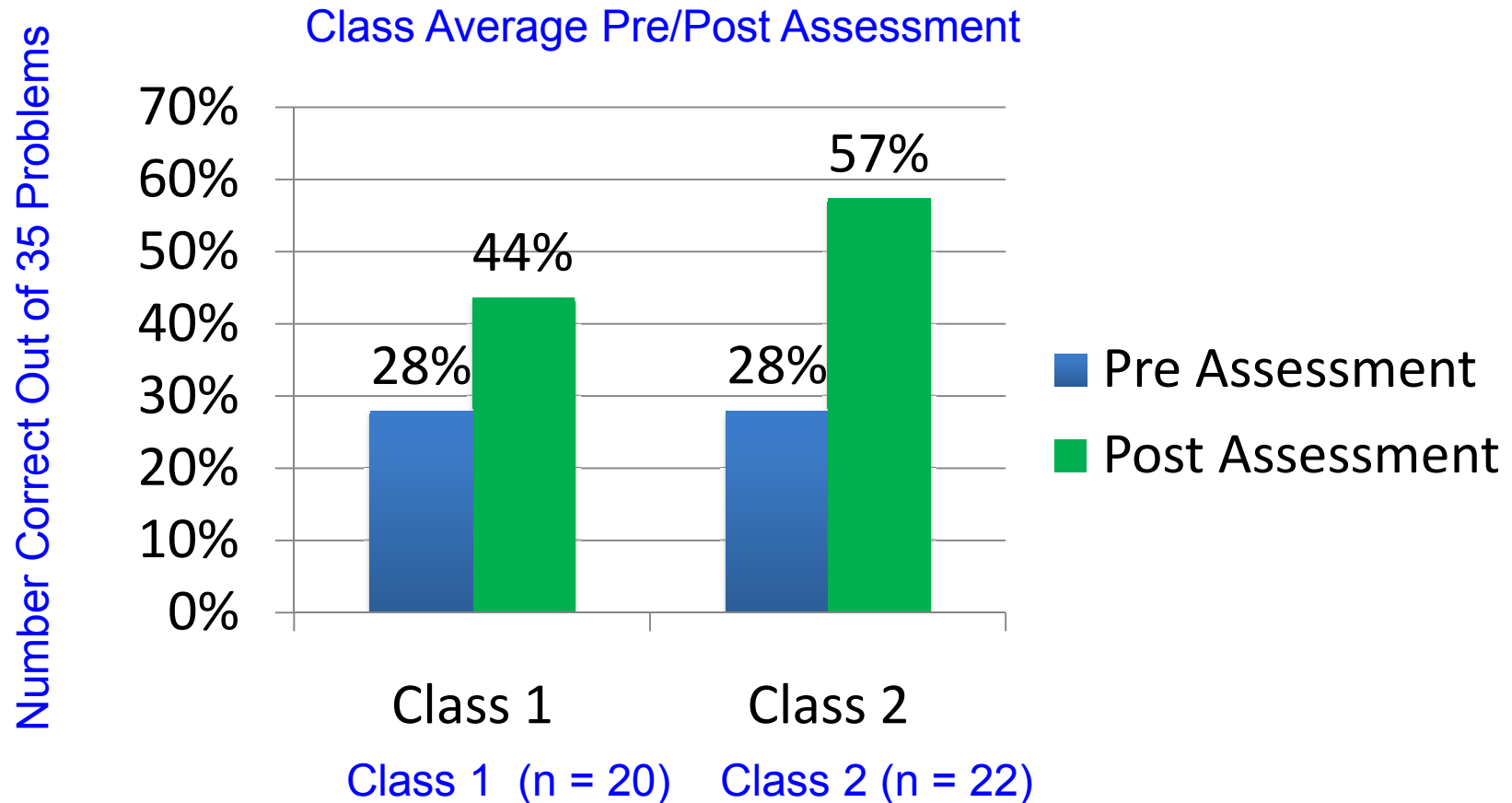




# Mathematics Achievement Academy Algebra #2

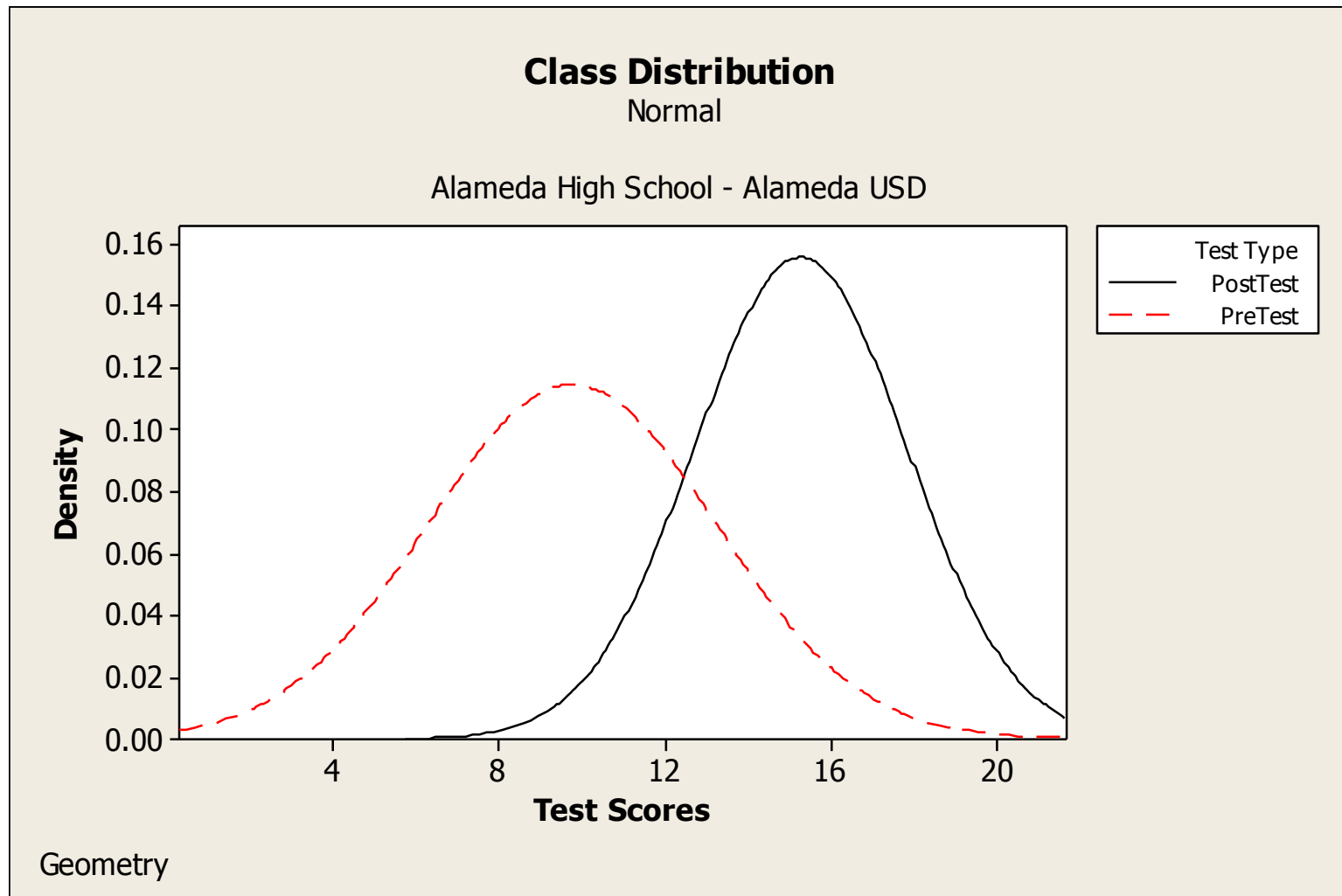


# Mathematics Achievement Academy Geometry

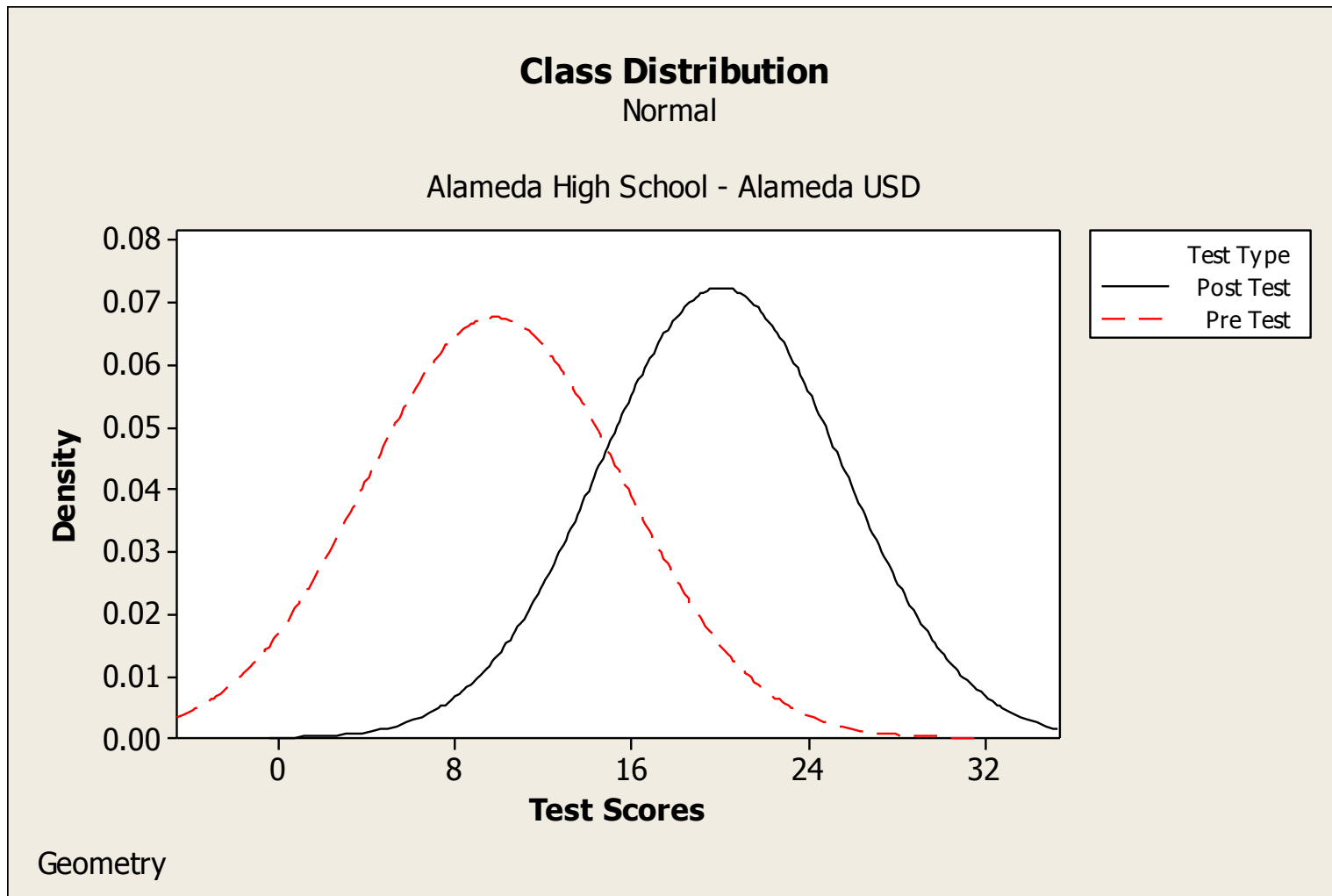


**Key Point: Students attending MAA Geometry classes increased performance by 16-29%.**

# Mathematics Achievement Academy Geometry #1



# Mathematics Achievement Academy Geometry #2



# **Criteria for Program Evaluation**

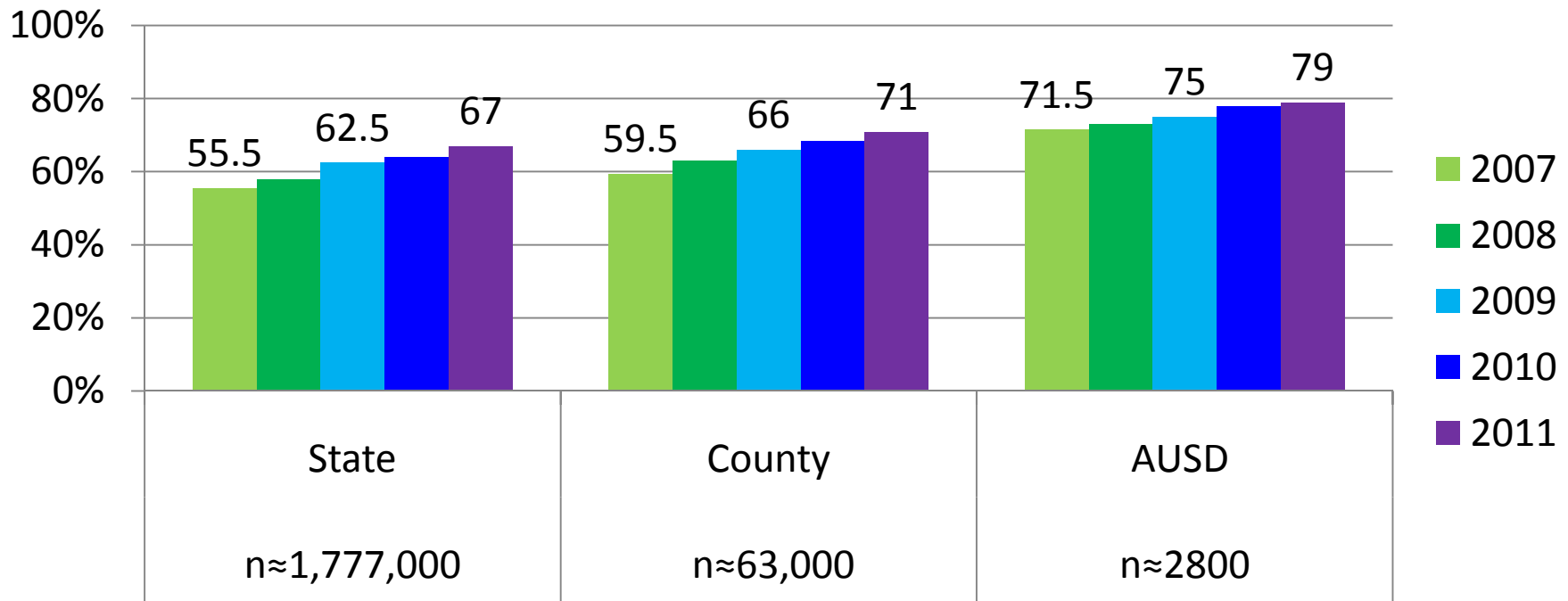
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**This year AUSD used the following criteria for evaluation of ACOE Math Initiative effectiveness:**

- Comparison of state, county and district scores in elementary school math CST percent proficient over past five years.**
- Growth over five years of grades 2-5 math CST percent proficient with focus on 4<sup>th</sup> and 5<sup>th</sup> grades where coaching has been most intensive.**
- Middle school math CST percent proficient growth over past five years.**
- Algebra 1 CST percent proficient growth over five years.**
- Analysis of math benchmark tests, K through Algebra 1.**

# ES CST Math 2007-2011: 2<sup>nd</sup> – 5<sup>th</sup> Grade

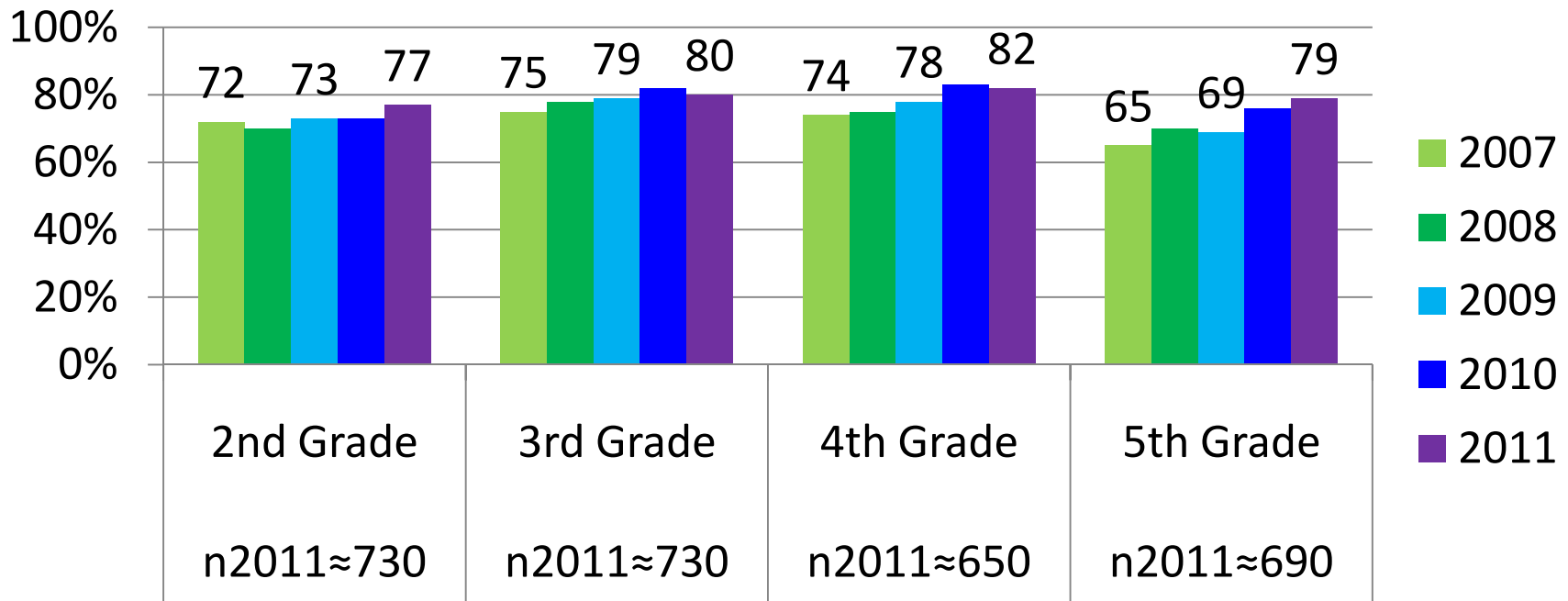
## Growth by Grade Level over 5 years



Key Point: AUSD continues to be ahead of the State and County averages in math performance on the CSTs. Although a SIMI 2 grant started in 2008-2009 no longer exists, AUSD Math Initiative provides coaching and professional development.

# AUSD CST Standards Math by Grade: 2007-2011

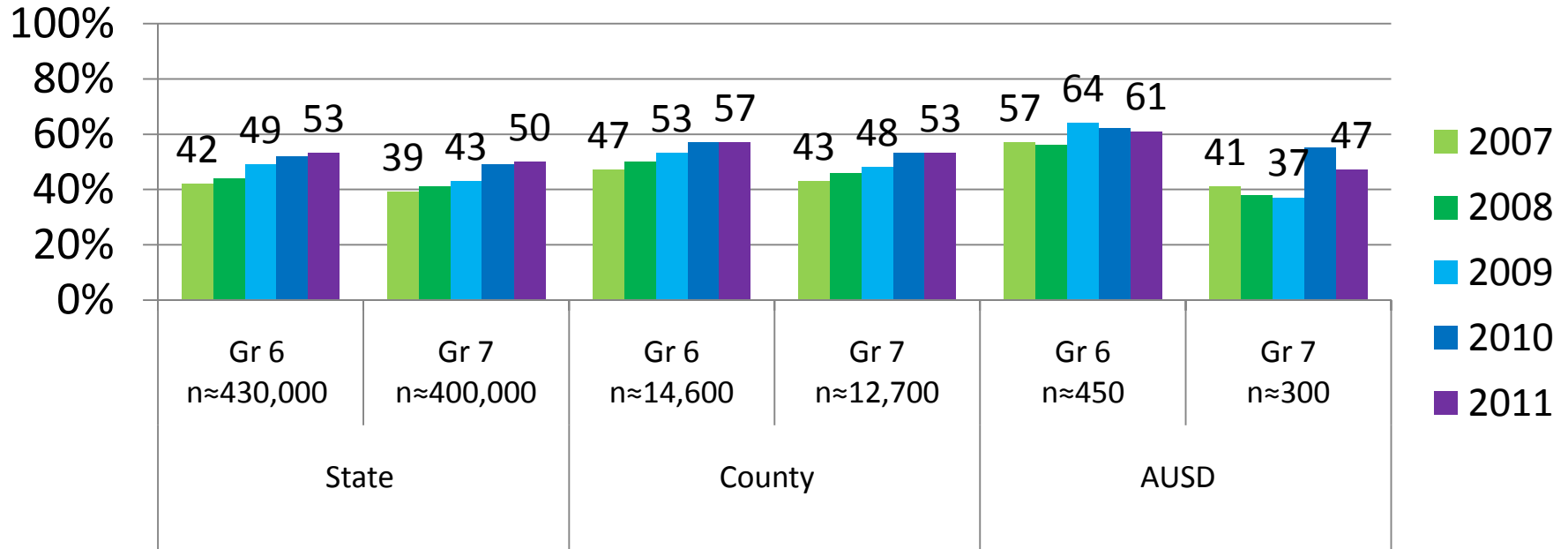
## Percent Proficient in Elementary School



Key Point: Elementary school math CST scores have been on the rise or holding above 80%. As discussed last year, more professional development is being offered to K-2 teachers, and more direct coaching support for primary grades would reinforce consistent teaching practice in the district.

# CST CA Standards Math: Middle School

Comparing 6<sup>th</sup> and 7<sup>th</sup> Grade Percent Proficient by State, County & AUSD

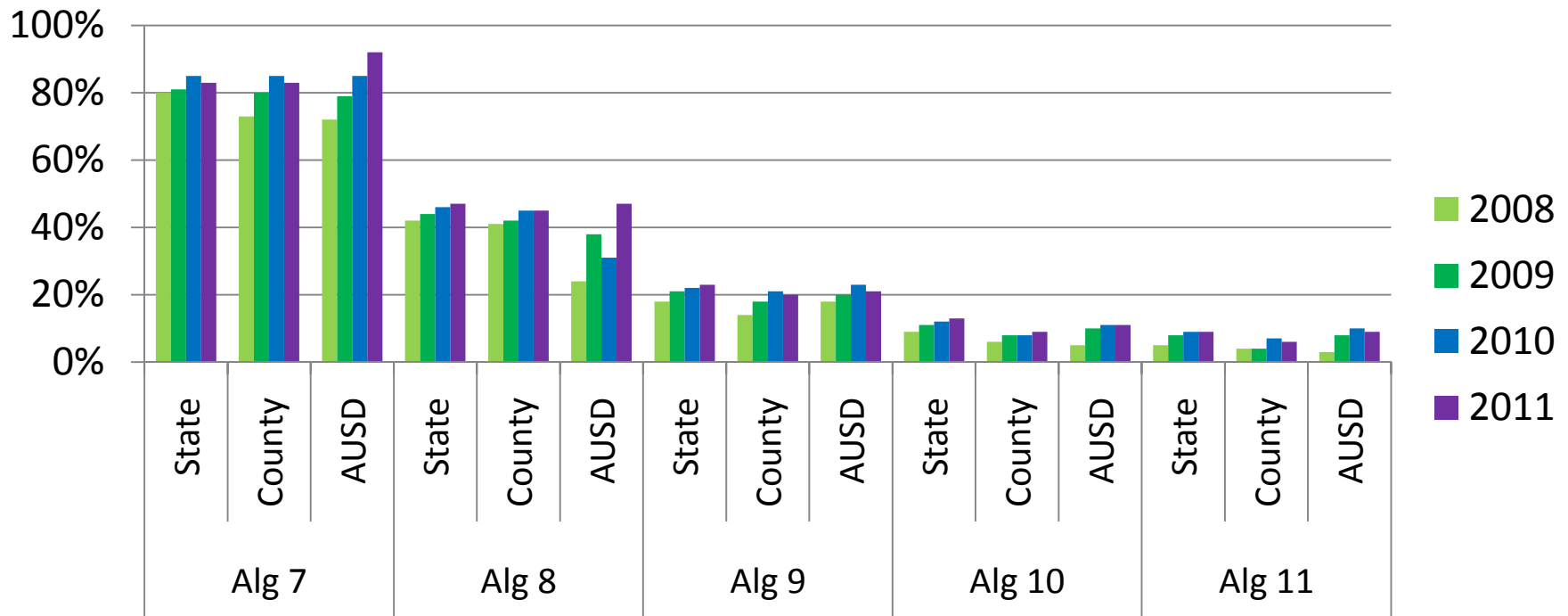


Key Point: AUSD 6<sup>th</sup> graders continue to perform ahead of the state and county on CSTs. In 2011, AUSD scores at 6<sup>th</sup> and 7<sup>th</sup> grade dropped, possibly because of the reshuffling of students to the Academy of Alameda (scores not included). Math teachers for 6<sup>th</sup> and 7<sup>th</sup> graders continue to receive coaching support and will have 4 after school paid professional development sessions this year.



# CST in Algebra by Grade

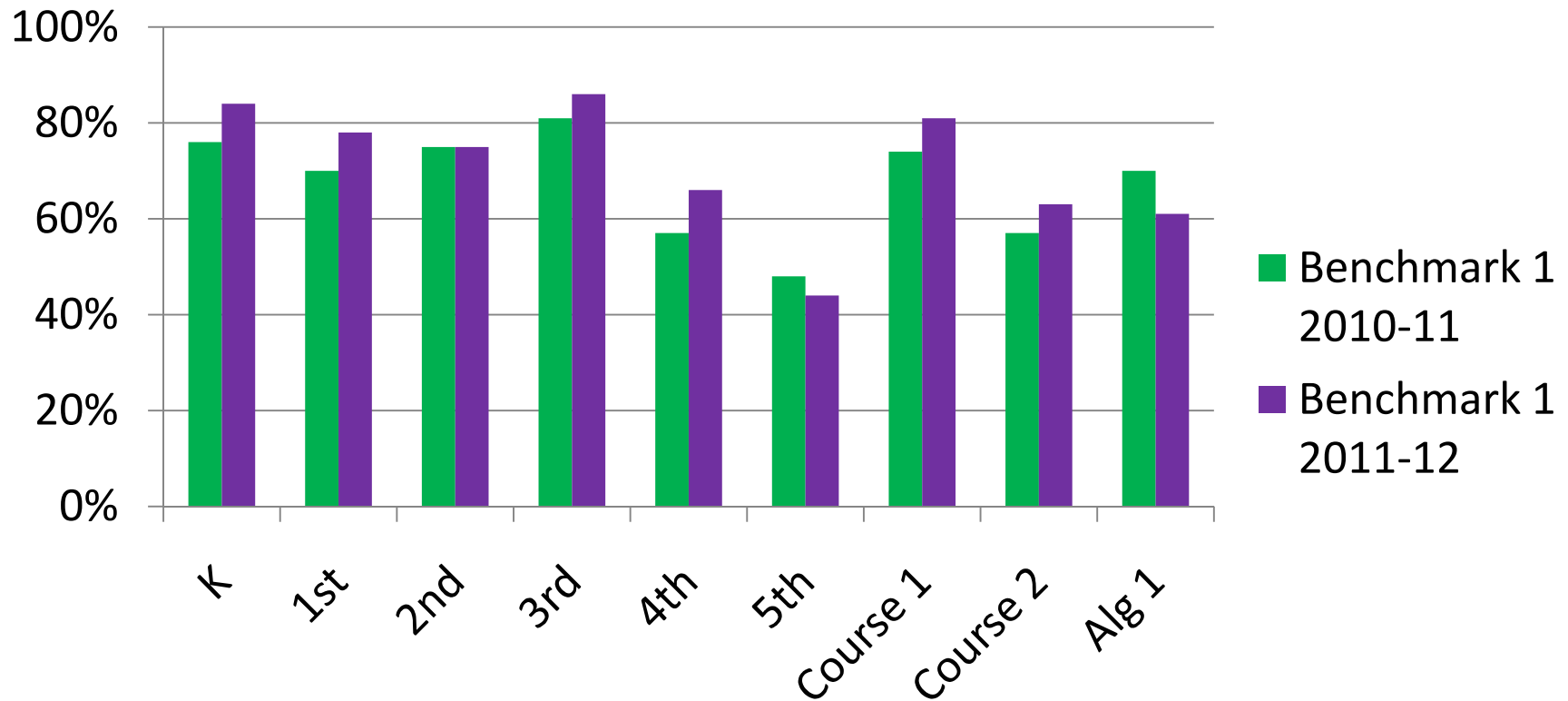
Percent Proficient from 2008 to 2011



**Key Point:** AUSD Algebra 1 performance is higher than the state at the middle school level and is mostly in step with the state at the high school. Our 7<sup>th</sup> and 8<sup>th</sup> grade scores had a big jump in 2011.

# Benchmark Assessments

## Comparing Benchmark 1 percent proficient over two years



**Key Point:** In our second year of using adopted math materials and new common math assessments, most grade levels showed improvement in percent proficient from last year to this year.

# Summary

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- AUSD students, teachers and administrators continue to benefit from our ongoing focus on mathematics. This work has improved awareness of math grade level standards, has helped teachers with effective and innovative instructional techniques, and has supported a culture of math collaboration and success.
- The heart of the AUSD math initiative is its practitioner-based coaching model that encourages active collaboration between teachers while providing structures to guide the conversation about implementing best practices in mathematics.
- The Math Initiative model emphasizes supporting adults to increase their understanding of mathematics while incorporating multiple methods for student learning and articulating best practices across grade levels and schools.