



LEARNING UPGRADE

Learning Upgrade White Paper: Castle Park Middle Achieves School-Wide Math Gains 2012-2013

December 19, 2013

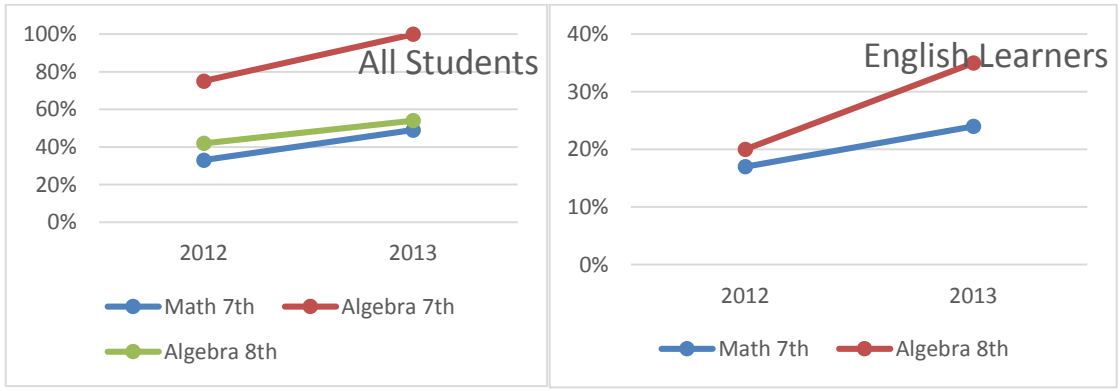
Summary

Castle Park Middle is located in Chula Vista, California within the Sweetwater Union High School District. The school is an urban school with 96% minority students, 88% economically disadvantaged, and 65% English learners. During the 2012-2013 school year, the school implemented the Learning Upgrade program for math intervention, as part of the overall Granger Turnaround Model (GTM) for school-wide turnaround.

The Learning Upgrade program consists of online courses for students to complete at school and at home. The courses are high-interest featuring songs, video, and games to motivate students and teach difficult topics in new ways. Each course covers the math standards for one grade level with review back to fill in gaps. Teachers track student progress to the gold certificate level of mastery through web-based reports.

Castle Park Middle implemented the Learning Upgrade program within academic supports for students needing intervention. The supports were both in school and in after school sessions. Teachers tracked student progress to ensure mastery in each assigned course.

The school achieved significant gains in math for the school as a whole in all grade levels and for subgroups of students within one school year. This report details the results.



The Goal: School Wide Math Gains In One School Year

Castle Park Middle set out with an ambitious goal: school-wide math gains including for all sub-groups of students within one school year.

The Granger Turnaround Model

Castle Park Middle has implemented the Granger Turnaround Model (GTM) for school turnaround to bring below proficient students up to proficiency. This includes intervention that is **directive, targeted, timely, and systematic**. The program includes:

- **School wide interventions:** where students flow in and out based on academic performance. This includes:
 - Academic Enrichment Center (AEC- Homework center)
 - Reteach
 - Saturday Extended Learning Program
 - Quarterly / EOC Intervention Plan
- **intensive interventions:** dedicated times each week **at risk groups:**
 - Rising Stars (2 Fs)
 - Shooting Stars (EL below 2.0)
 - Shining Stars (Spec Ed below 2.0)
 - All Stars (100 FBB, BB in Math or ELA)
 - ELD All Stars English Language Development (ELD)

The GTM system at Castle Park Middle features weekly tests in core subjects and a system of folders to track interventions. The system ensures that each student gets the appropriate academic supports to succeed.

Learning Upgrade as the Math Intervention Content

The school integrated the Learning Upgrade math online courses **Math Upgrade**, **Pre-Algebra Upgrade**, and **Algebra Upgrade** as the primary math intervention used within academic supports within the GTM. These courses feature:

- 60 lessons in each course cover grade-level standards (state and Common Core)
- high interest lessons featuring songs, video, and games
- review lessons to fill in gaps from previous grades
- automated repetition of lessons to mastery with Gold Certificate rewards
- web-based student and class real-time monitoring with graphical reports
- work on any school computers and iPads as well as home computers
- 20 to 25 hours time-on-task to completion with Gold Certificate

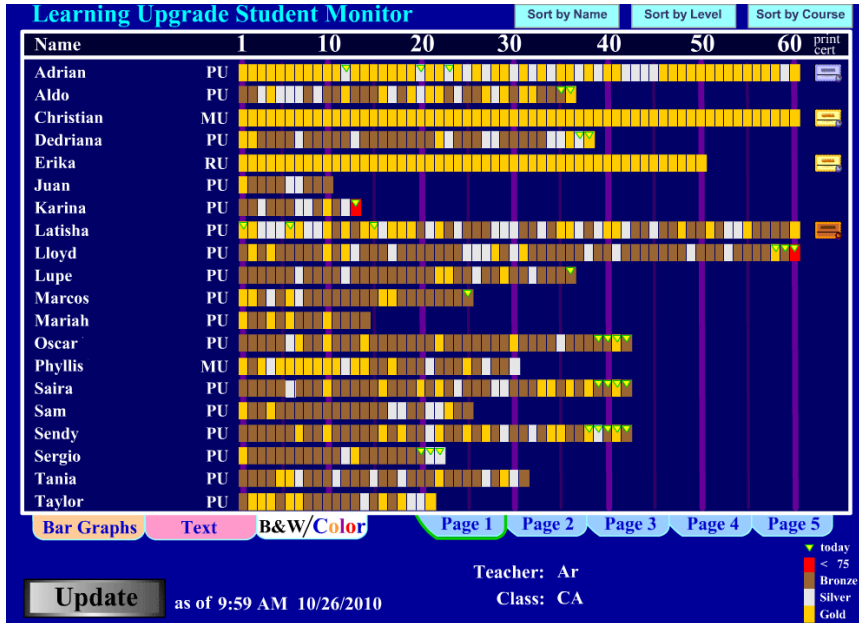
Students below proficient in math were enrolled in the appropriate Learning Upgrade course and given a username and password. They received supervised time as part of academic supports to complete the approximately 25 hours of instruction for each course. This included during school, after school, and Saturday sessions. Time outside of the school day was a priority to keep school time available for elective classes. Students completed the Learning Upgrade courses using school computers and iPads.

Pre-Algebra Upgrade Lesson Map and Math Upgrade Exponents Lesson

The lesson map shows 60 lessons arranged in a grid. Lesson 1 is Algebra Terms, and Lesson 60 is the Final Challenge. The Math Upgrade Exponents lesson interface shows a student named Jane Doe at level 25, with a progress bar and a large equation: $2^4 = 2 \times 2 \times 2 \times 2 = 16$.

60	59	58	57	56	55	54	53	52	51
FINAL CHALLENGE	Conjectures Patterns	Missing Irrelevant	Table Grids Tree Diagrams	Independent Events	Probability Basics	Histograms Stem & Leaf	Percentile Box & Whisker	Mean Median Mode	Symmetry Transforms
41	42	43	44	45	46	47	48	49	50
Non-Linear Graphs	Measurement	Conversions	Rate	Angles Lines	Triangles	Pythagorean Theorem	Polygons	Circles	Solid Figures
40	39	38	37	36	35	34	33	32	31
Scatter plots	Line Graphs	Slope Intercept	Slope on a Line	Points on a Line	Linear Equations	Word Problems	Solve Inequalities	Solve Equations	Ratios Proportions
21	22	23	24	25	26	27	28	29	30
Decimal Place Value	Add Decimals	Multiply Decimals	Percent Convert	Percent Problems	Compare Fractions Decimal	Exponent Basics	Exponent Rules	Square Roots	Scientific Notation
20	19	18	17	16	15	14	13	12	11
Add Fractions	Multiply Fractions	Reduce Fractions	Factors Multiples	Fractions Basics	Solve 1-step	Relations Tables Graphs	Translate Words to Algebra	Absolute Value	Reciprocal Inverse
1	2	3	4	5	6	7	8	9	10
Algebra Terms	Numbers	Integer Addition	Integer Multiply	Order of Operations	Multiply Variables	Coordinate Graphs	Add Like Terms	Distributive Property	Cumulative Associative

Teachers tracked student progress using web-based reports and a graphical, real-time Student Monitor. Students not making progress were targeted for extra support in dedicated sessions. The goal was for every below proficient student to complete the assigned courses to a gold certificate of mastery.



Strong Student Participation

Students at Castle Park Middle achieved the following with Learning Upgrade courses during 2012-13, primarily in academic supports:

- 1033 total students actively completed lessons (out of 1096)
- 302 students achieved a certificate in one or more courses
- 20,014 total student hours (about 20 hours per student) completing lessons
- 46,872 total lessons were completed



Results

California CST Test Results vs Previous Year

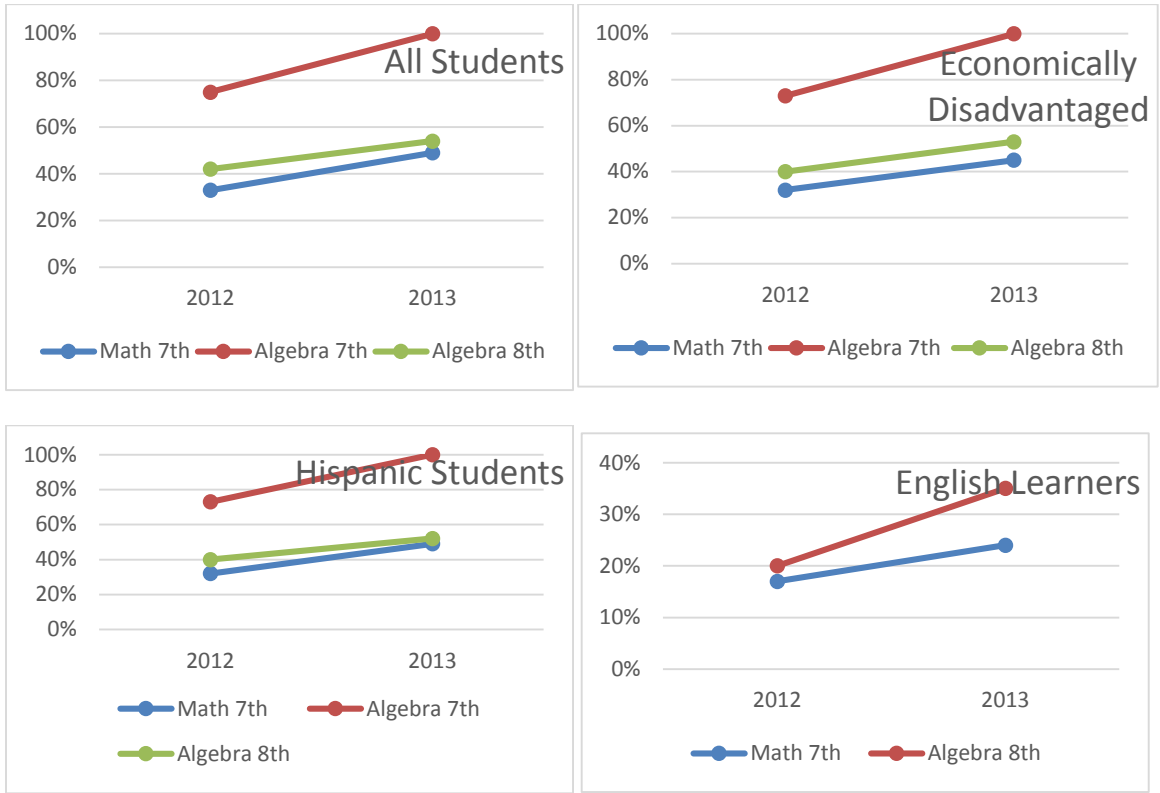
The table below shows math growth from 2012 to 2013 for the whole school and key subgroups for each grade/subject.

Subgroup	Grade/Subject	Percent Proficient and Above		
		2012	2013	Growth
All Students	Math 7 th Grade	33%	49%	16%
	Algebra 7 th Grade	75%	100%	25%
	Algebra 8 th Grade	42%	54%	12%
Economically Disadvantaged	Math 7 th	32%	45%	13%
	Algebra 7 th	73%	100%	27%
	Algebra 8 th	40%	53%	13%
English Learner	Math 7 th	17%	24%	7%
	Algebra 7 th		---	
	Algebra 8 th	20%	35%	15%
Hispanic	Math 7 th	32%	49%	17%
	Algebra 7 th	73%	100%	27%
	Algebra 8 th	40%	52%	12%

Highlights:

- Double-digit growth in percent proficient school wide in all grades
- Economically disadvantaged students made higher gains in Algebra than the school as a whole
- English learners made significant gains in math including a 15% gain in Algebra 1
- Algebra 1 in 7th grade reached 100% proficient for all students including subgroups

The graphs below shows percent proficient school-wide and in each subgroup.



API Growth

The school improved 6 points in API to move to 802, above the critical 800 value to meet the state school-wide target goal. Math scores are a key component of the overall API score.

Conclusions

Castle Park Middle met the goal of significantly increasing math performance school-wide within one school year. Students achieved double-digit increases in percent proficient school-wide in all grades. Economically disadvantaged students kept up with the school as a whole, and English learners made significant gains in math scores. Math gains helped the school cross the API 800 mark for meeting state targets.

One possible reason for the success is the combination of the GTM system and Learning Upgrade courses:

- the well-implemented GTM system identifies students who need intervention and provides supervised academic supports with monitoring
- the Learning Upgrade courses provide the effective intensive instruction through high-interest lessons, close student monitoring, and review to mastery so that gains from the support sessions are maximized

Castle Park Middle is an urban school with a high percentage of economically disadvantaged, minority, and English learner students. By achieving significant math gains within one school year, Castle Park Middle has demonstrated a model for math success which other schools can replicate.