



Measure C Update
Technology Advisory Committee Report
DRAFT
2012-2013

*Every Student, Every Day,
Whatever It Takes*

Mt. Diablo Unified School District



Measure C Update

Infrastructure Report in April

Measure C Update – TAC

A group of diverse stakeholders representing parents, students, teachers, county, district and site administrators, and classified employees have met for the last year as our Technology Advisory Committee (TAC) with the goal of:

- Classroom Technology Enhancements Recommendations
- Update the MDUSD Technology Plan
- Update Student Acceptable Use Policy

Measure C Update – TAC

Ways the Committee has developed a vision of how technology can transform learning are:

- Guest speakers
- Committee member expertise
- Research

Measure C Update – TAC

Classroom technology enhancements recommendation process:

- Research and visits to other districts
- District wide survey of current classroom technology
- Studied the **Common Core State Standards (CCSS)** and Smarter Balanced Assessment Consortium (SBAC)
- Created grade level committee teams to analyze data

Measure C Update – TAC

Visited other districts

- Corcoran District - 1-to-1
- American Canyon (3 Schools) – BYOD (Bring Your Own Device)
- San Ramon District - Mixed use
- Acalanes High School – iPad integration



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Research

- International Society of Educational Technology (ISTE.org)
- Partnership for 21st Century Skills
- Society for Human Resource Management (SHRM)
- Smarter Balanced Assessment Consortium
- Common Core State Standards
- TED talks and more

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Research – Career Ready

Employability skills that are expected to increase in importance identified by employers are:

- Critical Thinking/Problem Solving
- Information-Technology Application
- Teamwork/Collaboration
- Creativity/Innovation
- Tolerance

2006 SHRM report “Are They Really Ready for Work?”

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Research – College Ready

“Technology is used in colleges and universities from the beginning of first-year classes; and while it is no longer cutting-edge, and while technology is not in itself critical thinking or writing or research, it is a means to critical thinking and writing and research that is engaging and important.”

Academic Literacy: A statement of Competencies Expected of Students Entering California's Public Colleges and Universities, 2002, Intersegment Committee of the Academic Senates of the California Community Colleges, California State University, and University of California

Mt. Diablo Unified School District

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Common Core State Standards and Technology

- Supports core subjects
- Integration of online learning and classroom inquiry
- Emphasis on publishing and sharing
- Technology is no longer a stand-alone subject
- Provides real-world preparation for college & career

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Common Core State Standards and Technology

Students Should be able to:

- Produce and publish documents- **Media Literacy**
- Communicate and collaborate using web tools-**Global Literacy**
- Evaluate digital information in different formats-**Digital Literacy**
- Use technology **purposefully, safely** and **ethically**

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Common Core State Standards and Technology

English Language Arts

Kindergarten-W.K.6, 1st-W.1.6
and 2nd-W.2.6

With guidance and support from adults, **explore a variety of digital tools to produce and publish writing, including In collaboration with peers**

3rd –W.3.6

With guidance and support from adults, **use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.**

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Common Core State Standards and Technology

English Language Arts

4th - W.4.6 and
5th - W.5.6

With some guidance and support from adults, use technology, including the Internet, to produce and publish writing **as well as to interact and collaborate with others;**
demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

6th –W.6.6

Use technology, including the Internet, **to produce and publish writing as well as to interact and collaborate with others;**
demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

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Common Core State Standards and Technology

English Language Arts

7th - W.7.6 and
8th - W.8.6

Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.

7th –W.7.8 and
8th – W.8.8

Gather relevant information from multiple print and **digital sources, using search terms effectively; assess the credibility and accuracy of each source;** and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

Common Core State Standards and Technology

English Language Arts

**9 - W.9.6 and
10th - W.10.6**

Use technology, including the Internet, to produce, publish and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

**11th –W.11.6 and
12th – W.12.6**

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

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Common Core State Standards and Technology

Mathematics

K-12th – MP5

Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, **a computer algebra system, a statistical package, or dynamic geometry software.**

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Common Core State Standards and Technology

Mathematics

6th -6.G.5 and 7th- 7.G.2

Draw (freehand, with ruler and protractor, **and with technology**) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle

8th–8.EE.4

Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). **Interpret scientific notation that has been generated by technology.**

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Common Core State Standards and Technology

Mathematics

9th – 12th - F-BF.3

Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. **Experiment with cases and illustrate an explanation of the effects on the graph using technology.** Include recognizing even and odd functions from their graphs and algebraic expressions for them.

9th-12th – S-ID.8

Compute (**using technology**) and interpret the correlation coefficient of a linear fit.

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Smarter Balanced Assessment and Technology

- Computer adaptive testing
- Single end-of-year summative assessment
 - Last 12 weeks of the instructional year
 - Grades 3-8: Two performance events in ELA/Math
 - Grade 11: Up to six performance events in ELA/Math

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Smarter Balanced Assessment and Technology

- MDUSD schools participating in the SBAC pilot this year
 - Learn the technical requirements
 - Tech support required
 - Length of time for testing
 - Number of devices needed
 - Teacher training required

Measure C Update – TAC

Grade level committee teams analyzing data

- Analyzed district's current classroom technology data
- Gathered knowledge of best practices



Elementary school team

Measure C Update – TAC

Grade level committee teams analyzing data

- Created grade level technology packages
- Created grade level teacher technology packages



Middle and High school teams

Measure C Update – TAC

Analyzing district's current classroom technology

- Found many classroom labs/mobile labs district wide were needed to build capacity for SBAC
- Need for increasing instructional technology in ALL classrooms (including Special Education) to meet CCSS curricular technology upgrades
- Need for extensive teacher training in the effective use of classroom technology

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Gathered knowledge of best practices

- Teacher and administrator training is paramount
- Increase in tech support is required
- Using technology as a tool to change teaching and learning-collaboration, student-centered, constructive learning and powerful 1st instruction
- Teach safe and ethical use of technology

Measure C Update – TAC

Gathered knowledge of best practices *Continued*

- One-to-One device ratio can start around 4th grade
- Utilizing online Learning Management Systems facilitates classroom management in using technology
- On-going teacher and administrator training is required

Measure C Update TAC

Created Grade level
Technology Packages
Elementary

	SBAC	CCSS
K-5 Could have 1 to 1 start at 4 th grade	40 desktop lab	10/20 laptop cart
	20/40 tablet cart	10/20 laptop (class set)
	20/40 laptop cart	10/20 tablet cart 10/20 tablet (class set)

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Created Teacher
Technology Packages
Elementary

	TEACHER
K-5	<u>TEACHER PACKAGE 1</u>
	Laptop
	LCD Projector
	Document Camera
	Interactive whiteboard
	Teacher microphones and classroom speakers
	<u>TEACHER PACKAGE 2</u>
	Laptop
	Tablet
	LCD Projector
Interactive whiteboard	
<u>TEACHER PACKAGE 3</u>	
Laptop	
Tablet	
Apple TV	
Digital LCD Projector	

Measure C Update TAC

Created Grade level
Technology Packages
Middle School

	SBAC	CCSS
6-8	20/40 desktop lab	10/20 laptop cart (one for each grade or department)
	20/40 tablet cart	10/20 laptops (class set)
	20/40 laptop cart	10/20 tablet cart (one for each grade or department)
		10/20 tablet s (class set)

Measure C Update TAC

Created Teacher Technology Packages *Middle School*

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TEACHER	
6-8	<u>TEACHER PACKAGE 1</u>
	Laptop
	LCD Projector
	Document Camera
	Flat Screen TV
	Printer
	Teacher microphones and classroom speakers
	<u>TEACHER PACKAGE 2</u>
	Laptop
	Tablet
	Apple TV with dongle if needed
	LCD Projector
	Flat Screen TV
	Printer
	<u>TEACHER PACKAGE 3</u>
Laptop	
Tablet	
Digital LCD Projector	
Cable to connect Tablet to LCD	

Measure C Update TAC

Created Grade level
Technology Packages
High School

	SBAC	CCSS
9-12		10/20/40 laptop cart (one for each grade or department)
	20/40 desktop lab	10/20/40 laptop (class set)
	20/40 laptop cart	10/20/40 tablet cart (one for each grade or department)
	10/20/40 tablets carts with keyboards	10/20/40 Tablets (class set) 20/40 desktop multimedia/CAD (with 3d printer)

Measure C Update TAC

Created Teacher
Technology Packages
High School

	TEACHER
9-12	<u>TEACHERS PACKAGE</u> <ul style="list-style-type: none">• Laptop (PC or MAC)• Ceiling mounted LCD Projector and screen• Document Camera• Interactive Whiteboards (<u>Mimio</u>, Mobi or Smart Board)• Teacher microphones and classroom speakers

Measure C Update – TAC

Funding spending proposals

Data used to determine the amount technology for **each site** to provide **students the access to technology** for the **Common Core State Standards** and to give the **Smarter Balanced Assessment:**

- \$10-million Measure C funds available
- Student population numbers from each school
- Number of students tested is different for each level
 - Elementary (3rd-5th)
 - Middle school (6th -8th)
 - High school (11th grade).

Measure C Update – TAC

Funding spending proposals

PROPOSAL 1 – Divide the total Measure C funding amount by total number of students to find the dollar amount per student and distribute the funds to each site by student population at each site.

Total Measure C Funds	÷	Total Student in the District	=	\$/student
10 million	÷	32,000 students	=	\$313/student

Measure C Update – TAC

Funding spending proposals

PROPOSAL 2 – Subtract the amount that would insure all school's ability to give the SBAC & distribute the remaining funds to schools by student population at each site.

Total Measure C Funds	-	SBAC basic needs district wide	=	Funds for site's upgrade
10 million	-	\$3,000,000*	=	\$7,000,000
Funds for site's upgrade	÷	Total district student population	=	\$/student
\$7,000,000	÷	32,000 students	=	\$219/student

Measure C Update – TAC

Funding spending proposals

How the funding differs with each of the proposals is shown using the following data:

- Proposal 1: \$313/student (10million/32,000 total students)
- Proposal 2: \$219/student (\$7million/32,000 total students)

Measure C Update – TAC

Funding spending proposals

The results of the TAC's analysis of classroom technology data and the technology packages created will help **guide** schools to provided all students access to technology.

Measure C Update – TAC

Prioritized the implementation of new technology:

- Ensure ALL schools have capacity to give the SBAC
- *Increase instructional technology for ALL students to meet the CCSS

* This includes Special Education classes

Measure C Update – TAC

Next Steps:

- Develop teacher and administrator educational technology professional development
- Update district Technology Plan
- Update Student Acceptable Use Policy
- Funds to increase technology support for sites
- Funds for volume purchases of software and apps
- Funds for future educational technology sustainability