

NEW LIFE FOR OLD COMPUTERS

MAKING OLD COMPUTERS USEFUL

SUMMARY

Since 2010, 45 states have adopted the same standards for English-language arts and mathematics called the Common Core State Standards (CCSS).¹ Having the same standards allows all students to get a good education, even if they change schools or move to a different state. Teachers, parents, and education experts designed the standards to prepare students for success in college and the workplace.

Signed into law on October 2, 2013, AB 484² establishes California's new student assessment system, now known as the California Assessment of Student Performance and Progress (CAASPP).³ The CAASPP assessment system replaces the Standardized Testing and Reporting (STAR) Program. The primary purpose of the CAASPP assessment system is to assist teachers, administrators, and pupils and their parents by promoting high-quality teaching and learning through the use of a variety of assessment approaches and types. The plan is to administer the CAASPP to students via computer.

By 2014-2015, these tests will require students to have access to a computer with the right hardware, software, and bandwidth. School districts will need to make multimillion-dollar investments to prepare for online testing. Meeting minimum technology requirements means that cash-strapped districts need to earmark a greater percentage of their available funds for computer equipment.

The 2013-2014 San Diego County Grand Jury believes there are alternatives to spending large sums of money solely for the purpose of conducting CAASPP testing.

INTRODUCTION

The first challenge for schools incorporating the tenets of AB 484 will be the Smarter Balanced Assessment System⁴ Field Test that will take place between March 18 and June 6, 2014. In this field test, students in grades three through eight and grade eleven, as well as a small sample of ninth and tenth grade students, will be assessed via computer in English language arts and mathematics.

School districts will need to make multimillion-dollar investments to prepare for the online testing. Meeting minimum technology requirements means districts already short on funds will potentially need to spend large sums of money.

¹ Common Core Standards <http://www.corestandards.org/>

² AB-484 Pupil Assessments: Measurement of Academic Performance and Progress (MAPP) http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB484

³ California Assessment of Student Performance and Progress (CAASPP) <http://www.cde.ca.gov/ta/tg/ca/>

⁴ Smarter Balanced Assessment System <http://www.cde.ca.gov/ta/tg/sa/index.asp>

It is estimated that in California the costs to implement Common Core will be approximately \$35 million per year, or about \$30 per student, in testing costs alone.⁵

The Grand Jury believes there is a cost effective alternative for all schools within the county to utilize old computers making them virtual dumb terminals⁶ and perfectly capable of administering the Smarter Balanced Test.

The Grand Jury also believes that this alternative can save school districts a significant amount of money by not requiring that new equipment be purchased solely for student testing purposes.

PROCEDURE

The Grand Jury conducted an investigative study into the background of the Common Core Standards Initiative and the requirements to conduct Smarter Balanced Tests via computer as mandated by AB 484. The Grand Jury investigated school districts within the county to understand their individual plans to comply with the computer testing requirements.

The consensus was:

- Buy as many computers as their budget would allow
- Upgrade software to Windows 7 where necessary
- Train teachers to administer the testing
- Train students keyboard skills

The Grand Jury wanted to see if there were any other alternatives such that school districts would not be faced with spending exorbitantly on buying new computer hardware. To that end the Grand Jury investigated alternate methods of making old computers useful again.

The Grand Jury investigated many companies that advertised a product that could make old computers useful. We looked at these products from the standpoint of cost and capability to meet the desired need. After analysis the Grand Jury concluded that only one product (Neverware™) provided the most cost effective solution to making old computers useful and had already tackled formatting the Smarter Balanced Test to the computer environment. This product is already being used by the New York City schools to administer the Smarter Balanced Test. This experience would greatly benefit school districts within San Diego County.

⁵ “High Cost of Common Core has States Rethinking the National Education Standards,” Perry Chiaramonte, February 05, 2014, <http://www.foxnews.com/us/2014/02/05/number-states-backing-out-common-core-testing-maryland-schools-low-on-funding/>

⁶ A dumb terminal is a computer interface that consists of a keyboard and display monitor that has no processing capabilities. A dumb terminal is simply an input/output device that accepts data from the user. In contrast, a smart terminal is a complete computer system including keyboard, monitor and Central Processing Unit (CPU).

The Grand Jury encourages all San Diego County school districts to conduct their own in-depth investigation into the alternative products for making old computers useful for the purposes of administering the Smarter Balance Test.

DISCUSSION

The Common Core State Standards Initiative (CCSSI) is the result of two Washington, D.C. based organizations, the National Governors Association's Center for Best Practices (NGA Center)⁷ and the Council of Chief State School Officers (CCSSO),⁸ which coordinated the CCSSI to establish voluntary, national elementary and secondary school education standards in mathematics and English language arts.

California is participating in the Smarter Balanced Assessment Consortium (SBAC)⁹ with a number of other states to prepare a common set of assessments based on the CCSS. The SBAC is developing new assessments that will be fully implemented by the 2014–2015 school year, with pilot testing completed in 2012–2013, and field testing in 2013–2014.

SBAC is a state-led consortium developing next-generation assessments aligned to the Common Core State Standards in English language arts/literacy and mathematics. Using computer adaptive technology, the new assessments will give parents, teachers, and policymakers better tools and information to track student progress toward college and career readiness.¹⁰

The Common Core standards define the knowledge and skills students should have learned in their K-12 education in order to graduate from high school and to succeed in entry-level, credit-bearing college courses and in workforce training programs. These tests will be administered using a computer.

Broadband connectivity is not the only investment School districts will need to make. According to Kelsey Sheehy, US News Education reporter, "District leaders are going to have to assess their bandwidth capabilities, their operating systems, the speed and number of machines required for testing, the quality and coverage of their wireless network, and both student and faculty familiarity with software and the digital testing environment."¹¹

⁷ National Governors Association's Center for Best Practices <http://www.nga.org/cms/center>

⁸ Council of Chief State School Officers (CCSSO) <http://www.ccsso.org/>

⁹ Smarter Balanced Assessment Consortium (SBAC) <http://www.smarterbalanced.org/>

¹⁰ "On Track and Moving Forward: The Smarter Balanced Assessment System, Smarter Balanced Assessment Consortium,"

<http://www.smarterbalanced.org/wordpress/wp-content/uploads/2013/09/Smarter-Balanced-Milestones.pdf>

¹¹ "School Districts Face Common Core Test Tech Requirements - School Districts Need to Make Multimillion-Dollar Investments to Prep for Online Testing," Kelsey Sheehy, December, 2013, <http://www.usnews.com/education/blogs/high-school-notes/2013/12/09/school-districts-face-common-core-test-tech-requirements>

A report by the California Department of Education reveals, “In terms of computer hardware, the challenges were with classrooms that had multiple computer names, makes, and models. Certainly frustrating to teachers where they didn’t have tech support; that, of course, is the reality within many of schools. Many of us have computers going back 8, 9, 10 years or even more years.”¹²

School districts within San Diego County are already struggling to close budget gaps and having to spend money on computers for the purposes of testing alone is going to be a huge challenge. However, if there are ways to make all old computers usable again, the county school districts could save a significant amount of money that could be used for other purposes which will enhance student learning. Meeting minimum technology requirements means already cash-poor districts will need to appropriate monies that are in short supply.

Money is available from the State of California. The question is, will it be enough? According to Maureen Magee, K-12 education reporter for the San Diego Union Tribune, “As California prepares to roll out its new Common Core academic standards, San Diego city schools have mapped out a massive training effort for its more than 6,000 teachers. Gov. Jerry Brown budgeted \$1.25 billion for one-time Common Core preparation funds, which must be spent by July 2015. San Diego County’s share is about \$100 million, with \$22.5 million going to the San Diego Unified School District.”¹³

State law requires the funds to be used for professional development, instructional materials and technology support needed to administer the new online tests.

Many school districts will require significant investments in technology, since many districts lack enough computers needed to administer the tests necessary to make the assessments.

Regarding the funds available for computer resources, Maureen Magee tells us, “Some 26 percent of the state funds—nearly \$5.8 million—will go toward purchasing classroom materials and resources. About 7 percent has been earmarked for technology, since new state tests that will accommodate the standards will be administered online. Some 4 percent of the money has been reserved for indirect costs and unforeseen expenses.”¹⁴

Since only seven percent of the state funds are available for the purchase of computers, school districts may need to find other sources of funding to fill the gap. A key caution is

¹² Text transcript of the “Is Your Technology Ready for the Common Core Assessments” Webinar, December, 2013, presented by California Department of Education, Sacramento County Office of Education, and San Juan Unified. <http://www.cde.ca.gov/ta/tg/sa/iytrftccatrans.asp>

¹³ “San Diego Teachers to Get Schooled in Common Core,” Maureen Magee, December 7, 2013, <http://m.utsandiego.com/news/2013/dec/07/San-Diego-Unified-trains-teachers-in-common-core/>

¹⁴ SD Teachers to get Schooled in Common Core, Maureen Magee, December 7, 2013, <http://www.utsandiego.com/news/2013/Dec/07/San-Diego-Unified-trains-teachers-in-common-core/>

that San Diego School Districts do not follow the lead set by the Los Angeles Unified School District.

EdSource Today editor-at-large John Fensterwald asks, “‘Is it legal to buy personal computers for students using school construction bonds? And if it’s legal, is it wise to pay interest long-term on devices with a short shelf life?’ Last month, the Bond Oversight Committee for Los Angeles Unified balked at endorsing Superintendent John Deasy’s plan to buy tablet computers with bonds intended primarily for building and renovating schools. In doing so, the Committee raised questions that other school districts also should be asking. There’s no unqualified answer to the questions that the Bond Oversight Committee asked, and school districts like San Diego Unified and Riverside Unified have come to opposite conclusions. What all agree on, however, is that the state needs to provide legal clarity and, most importantly, more dollars.

“There’s no disagreement that school bond funds can be used to upgrade wiring, install wireless receivers and pay for computer management systems. Bonds can also be used to train system managers. But laptops, tablets and netbooks—devices that cost anywhere from \$200 to \$800—are a different matter. Unless the financing is structured carefully, taxpayers could end up paying interest on 25 or 30 year bonds used to buy devices that only last a few years.

“The average life of an asset, whether a building or furniture, should match the length of financing as a rule of thumb. If financed with a 25 year bond at 4.5 percent interest, a \$500 computer would accrue \$1,000 in interest expense by the time it’s paid off.”¹⁵

The problems are also getting the attention of unions. Mario Koran, education reporter for the Voice of San Diego, tells us, “The San Diego teacher’s union, said that because the district’s teachers have already been teaching students to think critically, San Diego Unified is better prepared than other districts. His concern, he said, is whether all students will have access to technology to take this year’s Smarter Balanced pilot test—which will be computerized—and whether the students will be keyboard-proficient.”¹⁶

The Grand Jury believes it has discovered a reasonable alternative to the purchase of new computers that should be investigated by all school districts in the county. Many school districts already have old computers that might be incapable of being used to administer the testing. The effect is called “Moore’s Law,” a computing term which originated around 1970. This law states that processor speeds, or overall processing power for computers will double every two years. This explains why computers only have a life span of 2-3 years before they need to be replaced.

¹⁵ “Districts Face Questions in Spending Long-Term Bonds for Short-Lived Technology,” John Fensterwald, December 17, 2012, <http://edsource.org/today/2012/districts-face-questions-in-spending-long-term-bonds-for-short-lived-technology/24034>

¹⁶ “Common Core Rollout Is a Test within a Test for SDUSD,” Mario Koran, Jan 30, 2014, <http://voiceofsandiego.org/2014/01/30/common-core-rollout-is-a-test-within-a-test-for-sd-unified/>

The Grand Jury believes that the challenges of insufficient funds for the computing needs can be augmented by making old computers useful for the purpose of administering these tests.

There is a product, currently in use in the New York City schools that makes old PCs run like new. The product is called Neverware™. According to the Neverware™ website:

“The product installs powerful software on schools' existing computers, taking over the heavy lifting and allowing the computers to run like new, even if it's ten years old and missing its hard drive. Customers do not have to buy any hardware: The products pricing is affordable to fit into any school's annual budget. When a school signs up, a professional installation team works with the school administration to get the software up and running. All installation and maintenance costs are covered as long as the school is a customer - which means that a Neverware™ school is getting one of the best deals on reliable IT infrastructure. Reliable, high-performance computing is now a reality for a growing network of schools.”

“When Neverware™ is installed on a computer, no matter how old, it will run Windows™ 7 like powerful new machines. The software can also be maintained by network administrators who can change settings. This feature removes one of the largest headaches involved with managing large numbers of computers: keeping them in the state they were originally configured. Those changes only need to be entered once, from one location, and they will be reflected on every PC on the network. Best of all, Neverware™ is 100% secure: any unauthorized changes are completely erased with every logout, which means that viruses, tampering and cheating are problems of the past. Neverware is the future.”¹⁷

Neverware™ is designed to prevent files from being permanently saved on the computer, eliminating the risk of viruses or malicious files corrupting computers and decreasing performance. Students taking the Common Core test would log-on to the Neverware-powered PC, to take the tests. Upon log-out all student information is erased. When a new user logs in, they get a completely fresh computer, configured the way it was originally. Neverware™ software is advertised as technology that makes old computers perform as brand new.

In essence, Neverware™ makes old computers work as dumb terminals, which is all that's required for the administration of the CAASPP testing. Dumb terminals are used by airlines, banks, and other such firms for inputting data to, and recalling it from, the network, thus they provide the perfect platform for schools to use to administer tests.

¹⁷ <http://www.neverware.com/>

FACTS and FINDINGS

Fact: On-line testing of students for Common Core is the law and must be in-place for the 2015 school year.

Fact: School districts face budget constraints that make providing enough computers for on-line testing a challenge.

Finding 01: Old computers may be made useful again through the use of the Neverware™ software solution or similar software.

RECOMMENDATIONS

The 2013/2014 San Diego County Grand Jury recommends that the forty-two (42) San Diego County School Districts:

- 14-48: Research the Neverware™ system and other similar software for use as a method of making old computers useful for the purpose of conducting on-line Common Core student testing.**
- 14-49: Incorporate the use of the Neverware™ software system, or similar software, into plans for facilitating the computer infrastructure that will be needed for Common Core testing.**
- 14-50: Put in place conservation efforts to retain old computers for the purpose of implementing Common Core testing requirements.**
- 14-51: Look to civic organizations and businesses for donations of old computers to further defray any cost impact of this testing requirement.**

REQUIREMENT AND INSTRUCTIONS

The California Penal Code §933(c) requires any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the agency. Such comment shall be made no later than 90 days after the Grand Jury publishes its report (filed with the Clerk of the Court); except that in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g. District Attorney, Sheriff, etc.), such comment shall be made within 60 days to the Presiding Judge with an information copy sent to the Board of Supervisors.

Furthermore, California Penal Code §933.05(a), (b), (c), details, as follows, the manner in which such comment(s) are to be made:

- (a) As to each grand jury finding, the responding person or entity shall indicate one of the following:

- (1) The respondent agrees with the finding
 - (2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.
- (b) As to each grand jury recommendation, the responding person or entity shall report one of the following actions:
- (1) The recommendation has been implemented, with a summary regarding the implemented action.
 - (2) The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation.
 - (3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This time frame shall not exceed six months from the date of publication of the grand jury report.
 - (4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.
- (c) If a finding or recommendation of the grand jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the Board of Supervisors shall respond if requested by the grand jury, but the response of the Board of Supervisors shall address only those budgetary or personnel matters over which it has some decision making authority. The response of the elected agency or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

Comments to the Presiding Judge of the Superior Court in compliance with Penal Code §933.05 are required from:

| <u>Responding Agency</u> | <u>Recommendations</u> | <u>Due Date</u> |
|--|-------------------------------|------------------------|
| Alpine Union School District | 14-48 through 14-51 | 8/12/14 |
| Bonsall Union School District | 14-48 through 14-51 | 8/12/14 |
| Borrego Springs Unified School District | 14-48 through 14-51 | 8/12/14 |
| Cajon Valley Union School District | 14-48 through 14-51 | 8/12/14 |

| | | |
|--|----------------------------|----------------|
| Cardiff School District | 14-48 through 14-51 | 8/12/14 |
| Carlsbad Unified School District | 14-48 through 14-51 | 8/12/14 |
| Chula Vista Elementary School District | 14-48 through 14-51 | 8/12/14 |
| Coronado Unified School District | 14-48 through 14-51 | 8/12/14 |
| Dehesa School District | 14-48 through 14-51 | 8/12/14 |
| Del Mar Union School District | 14-48 through 14-51 | 8/12/14 |
| Encinitas Union School District | 14-48 through 14-51 | 8/12/14 |
| Escondido Union High School District | 14-48 through 14-51 | 8/12/14 |
| Escondido Union School District | 14-48 through 14-51 | 8/12/14 |
| Fallbrook Union High School District | 14-48 through 14-51 | 8/12/14 |
| Fallbrook Union School District | 14-48 through 14-51 | 8/12/14 |
| Grossmont Union High School District | 14-48 through 14-51 | 8/12/14 |
| Jamul-Dulzura Union School District | 14-48 through 14-51 | 8/12/14 |
| Julian Union High School District | 14-48 through 14-51 | 8/12/14 |
| Julian Union School District | 14-48 through 14-51 | 8/12/14 |
| La Mesa Spring Valley School District | 14-48 through 14-51 | 8/12/14 |
| Lakeside Union School District | 14-48 through 14-51 | 8/12/14 |
| Lemon Grove School District | 14-48 through 14-51 | 8/12/14 |
| Mountain Empire Unified School District | 14-48 through 14-51 | 8/12/14 |
| National City School District | 14-48 through 14-51 | 8/12/14 |
| Oceanside Unified School District | 14-48 through 14-51 | 8/12/14 |
| Poway Unified School District | 14-48 through 14-51 | 8/12/14 |
| Ramona Unified School District | 14-48 through 14-51 | 8/12/14 |
| Rancho Santa Fe School District | 14-48 through 14-51 | 8/12/14 |

| | | |
|---|----------------------------|----------------|
| San Diego Unified School District | 14-48 through 14-51 | 8/12/14 |
| San Dieguito Union High School District | 14-48 through 14-51 | 8/12/14 |
| San Marcos Unified School District | 14-48 through 14-51 | 8/12/14 |
| San Pasqual Union School District | 14-48 through 14-51 | 8/12/14 |
| San Ysidro School District | 14-48 through 14-51 | 8/12/14 |
| Santee School District | 14-48 through 14-51 | 8/12/14 |
| Solana Beach School District | 14-48 through 14-51 | 8/12/14 |
| South Bay Union School District | 14-48 through 14-51 | 8/12/14 |
| Spencer Valley School District | 14-48 through 14-51 | 8/12/14 |
| Sweetwater Union High School District | 14-48 through 14-51 | 8/12/14 |
| Vallecitos School District | 14-48 through 14-51 | 8/12/14 |
| Valley Center-Pauma Unified School Dist. | 14-48 through 14-51 | 8/12/14 |
| Vista Unified School District | 14-48 through 14-51 | 8/12/14 |
| Warner Unified School District | 14-48 through 14-51 | 8/12/14 |