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Common Core State Standards and Technology

The world is changing. Education should be changing with it. The Common Core State Standards has provided the catalyst for change that schools need in the United States. The Common Core State Standards ask the teachers to slow down and teach fewer standards more deeply by exploring key concepts and concentrating on mastery. They call for students to understand and apply concepts, read closely more nonfiction texts, and support claims with evidence in mathematics, English language arts, and speaking and listening. In addition to these underlying principles of the Common Core State Standards, students will need to have a wealth of 21st century skills to complement their learning. Using Google Apps for Education, students and teachers can prepare for the rigors of the Common Core State Standards and the Next Generation Assessments.

The Common Core State Standards drive teaching and learning to become more in depth and to foster critical thinking skills across the curriculum. When reading the standards, it is apparent that the authors want technology to be a part of the learning process. Standards like *Anchor Standard* 6 for Writing call for students to "produce and publish writing using the Internet." That standard progresses from K–12 with various levels of complexity. Thankfully, the architects of the standards did not separate technology into its own set of standards. Rather, technology integration is too important to single it out as its own discipline. It is a part of everything we do today: how we learn, work, and live. Technology use is embedded in almost every aspect of the standards, and teachers should look for ways to use it, even when it does not specifically say to, as in Anchor 6 for Writing. Teachers must have the courage to learn new ways of thinking about using technology. It is not a toy or a reward; it is an integral tool for learning as mighty as the pen.

Technology is embedded in every facet of our world. It is nearly impossible for a person to work or learn in today's society without interacting with some form of technology. For example, Wendy's, Kroger, and other corporations have abolished paper applications. It is impossible to get a job with these companies without having some basic computer skills, including the use of the Internet. One thing is certain, technology and its use in education will not go away. Moore's Law implies that technology and its capacity will double every 18 months. The kindergartener who starts school in 2012 will graduate in 2026. That means that in the 13 years that the student will attend K–12 schooling, the capacity of our technological society would have doubled 8.6 times. What will work and college look like then? Students must be prepared for college and career. Teachers must implement technology into the classroom if we want our students to succeed in the future. Educators, especially classroom teachers, have a responsibility to integrate technology into their teaching practice to meet and exceed the Common Core State Standards.

NO TEACHER LEFT BEHIND

Take the opportunity of the mandates the Common Core State Standards provide and take back your license to teach. Explore concepts deeply, have the courage to slow down, teach fewer standards, and implement digital citizenship in your lessons. Follow these recommendations, and the transition to Common Core will be a great experience for you and your students.

ASSESSMENT

No Child Left Behind forced states to set in place some form of student learning expectations that guided student learning throughout the year and assess it at the end of the academic period. Each state had separate standards and a separate, one-time assessment. Some states had less rigorous assessments and standards than others, but each state was mandated to perform its own assessment. Using this model, comparing student learning across states was nearly impossible because every state had a different assessment. How could the Apple test from the state of Washington compare with the Orange test in Florida? With the Common Core State Standards, student achievement data can be compared across states because each state will have the same standards with nearly identical assessments, depending on the testing consortia. With the Common Core, poor students in the U.S. Virgin Islands will be held to the same high standard of learning as affluent communities in California. For the first time in American education, a student's ZIP code will not determine the level of academic rigor to which students are exposed.

Next Generation Assessments

Two testing consortia were chosen by the federal government to provide the Next Generation Assessments. They are the Partnership for Assessment of Readiness for College and Career and the Smarter Balanced Assessment Consortium. The majority of the funding comes from a $360 million grant from the federal government and the Bill and Melinda Gates Foundation. These consortia will provide,

write, and implement the Next Generation Assessments. The two consortia are very similar. They will both provide tests for Grades 3–11, with the promise of providing Grades K–12 tests in the future. See which consortia your state chose by going to http://www.smarterbalanced.org/ or http://www.parcconline.org/.

The assessment piece of the Common Core State Standards is named the Next Generation Assessment. The name is fitting because both tests contain testing elements that are embedded with 21st century skills. For example, students in sixth grade through 12th grade will perform their test on an electronic device. The test will be a mix of adaptive questioning (Smarter Balanced only), multiple choice, and technology-enhanced research events. Both testing consortia have not confirmed what software and hardware are needed for the Next Generation Assessments, but they have released guidelines for new instructional technology purchases. They recommend that any new hardware purchased have the requirements shown in Figure 1.1.

Figure 1.1 Minimal Guidelines for New Hardware Purchases

Hardware	Operating System	Networking	Device Type
• 1 GHz or faster processor • 1 GB RAM or greater memory • 9.5 inch (10 inch class) or larger screen size • 1024 × 768 or better screen resolution	• Windows 7 • Mac 10.7 • Linux (Ubuntu 11.10, Fedora 16) • Chrome OS • Apple iOS • Android 4.0	• Wired or wireless Internet connection	• Destops, laptops, netbooks, thin client, and tablets that meet the hardware, operating system, and networking specifications

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Students in Grades K–5 will perform their test on a mix of electronic devices and paper. Pilot assessment programs are underway to research the ability of students in K–5 to perform the assessment on a device. Technology in the classroom is more important than ever. Not only is it the right thing to do to prepare students for college and career, but it is required on the assessments. In some states, students' scores on the Next Generation Assessments will count toward teacher evaluation. The Next Generation Assessments will require students to be technology savvy to perform certain tasks that if left unpracticed in the regular classroom will greatly impair their ability to perform well on the test. The testing medium for the majority of students is an electronic device. For example, students in sixth grade are required to produce and publish writing with a minimum of three pages in a single setting using the Internet and an electronic device. They are expected to collaborate and share their work with the testing company for scoring using the Internet. Student exposure to technology is an imperative. Google Apps for Education in conjunction with their teachers can prepare students for this challenge by providing the platform for them to practice and learn from their mistakes.

On the Next Generation Assessments, students will be asked to produce and publish writing using the Internet. Consider the steps here for writing and compare them with what the Common Core State Standards envision for students to master for the modern world.

Poor Practice

- Take out a pencil.
- On paper, prepare the writing, including graphic organizers.
- Complete a rough draft.
- Go to the computer lab.
- Type the handwritten document in Microsoft Word.
- Print the document for teacher to review.

In this formula, the writing is created by handwriting, which is an important skill but looks nothing like what students are reading in books. Using technology to create writing lets the document live on to be edited or shared. Using older techniques, the writing dies as soon as it is handed into the teacher for grading. Its best chance for review by peers, parents, and professionals is the off chance that the work is posted in the classroom or hallway. That model is not the intent of the Common Core State Standards. The steps below *are* the way professionals and college students write:

Modern Common Core Style Writing Procedures

- Take ideas from brain to keyboard on an Internet-enabled word processor *(Google Docs)*.
- Compose the document using the Internet.
- Share and collaborate with others.
- Share or e-mail the document to the teacher for scoring or to coworkers for review.

Think of the last time you performed a formal writing piece that was produced in the Poor Practice example. With the Next Generation Assessments, our students must be able to do the Modern Common Core Style to be successful in college, career, and the Next Generation Assessments. Chapter 4 will connect specific Common Core State Standards to the Modern Procedures.

Types of Devices

One reason why Google Apps for Education is the best solution for implementing technology for the Common Core State Standards is because the service is *device neutral*. Device neutrality means that no matter what device the student is using, he or she will have access to Google Apps for Education. In contrast, Apple's word-processing software Pages can only be accessed on an Apple device. Using the programs available through Google Apps for Education requires only access to the Internet and a Web browser. The Next Generation Assessment is very similar to Google Apps because it may operate virtually on any device. With Google Apps, students can access and produce their documents, files, and other work from any device (PC, Mac, Android Tablet, or iPad). The Next Generation Assessment may be given on any device that matches the requirements in Figure 1.1. That is a possibility of eight different operating systems and many different types of computers, including tablets, desktops, and laptops. That is a large combination of devices to prepare students to work with. Google Apps for Education helps students become ready for an ever-changing device market just like the Next Generation Assessments. At the moment, Apple's iPad is the king of student devices, but that will inevitably change as new devices arrive in the marketplace.

Google provides the experience for students to be ready for any device they encounter on the Next Generation Assessments, in college, or in a career.

TECHNOLOGY-INFUSED TEACHING TIP

Teachers are sometimes deprived of quality technology professional development provided by their districts. It is very difficult to target and deploy training when everyone in the building is on a different skill level. Accept the challenge that implementing technology will be difficult but necessary. Start small—learning technology that can impact students the most with the least amount of learning. Over time, things will get easier. Follow these tips for successful technology integration.

1. If you don't know, ask someone (this person is most likely a student).
2. Research on your own.
3. Read online message boards for how-tos.
4. Follow tech gurus on Twitter, Google Plus, Facebook, and Pinterest (social media—the secret weapon when learning new teaching strategies with or without technology).

GOOGLE?

The Common Core State Standards set high expectations for both students and educators. One of the most challenging for educators is finding the right way to integrate technology into the learning process. Google Apps for Education provides nearly all of the tools to get educators on the path of using technology while implementing the Common Core State Standards. Google's apps are free, easy to use, and are trusted by more than 16 million students and teachers worldwide. The services Google offers follow the company's motto of "do no harm." They are providing the most sophisticated, easy-to-use software experience for free, because it is the right thing to do for teachers and students.

This book is filled with exciting new ideas and processes for the educator to get started with Google Apps for Education and how it can be used to meet and exceed the Common Core State Standards. Hopefully, it can excite the veteran teacher to implement new strategies while calming fears and help the novice teacher get familiar with Common Core State Standards and their technology component. Step-by-step tutorials with screenshots will be provided to explain in detail how to get your students learning and working with these amazing 21st century tools as well as full lesson plans in the Resource Link section. Get ready to learn how Google Apps for Education meets Common Core!

RESOURCE LINK

Find additional content on the Web, including videos, websites, links to the Common Core State Standards, and testimonials, at this link:

- http://goo.gl/n1MkN