



Assessment with iPad



Online Assessments in Education

High-stakes standardized assessments are commonplace in American K-12 public education. Virtually every state uses some form of these assessments to help gauge student achievement and readiness for college and career.

The last decade has seen the assessment stakes raised to new levels, first through federal enactment of the No Child Left Behind Act (NCLB) in 2002, and then with a state-led effort to establish a common set of educational standards beginning in 2009, known as the [Common Core State Standards](#).

Common Core State Standards

The Common Core State Standards (CCSS) articulate the English language arts and mathematics knowledge and skills that students need to graduate. They were created through a joint effort of the [National Governors Association](#) and [Council of Chief State School Officers](#); 45 states and the District of Columbia have adopted them.

CCSS are expected to strongly influence the direction of curriculum, encourage development of instructional materials aligned to them, and lead to the implementation of comprehensive assessment systems to measure student performance against them.

Common Core Assessments

Comprehensive assessment systems are the focus of much national attention and federal investment. The goal is for the nation's public schools to transition to a new set of "next generation" online assessments in English language arts and mathematics that align to CCSS, beginning with the 2014–2015 school year.

To accomplish this, the federal government has invested \$370 million in two major state consortia—the [Partnership for Assessment of Readiness for College and Careers](#) (PARCC) and the [Smarter Balanced Assessment Consortium](#) (SBAC)—as well as three smaller consortia focused on alternative assessments for student with special needs: [Assessment Services Supporting English Learners Through Technology Systems](#); [Dynamic Learning Maps Alternate Assessment System Consortium](#); and [National Center and State Collaborative](#).

PARCC and SBAC

Assessments developed by PARCC and SBAC will serve the vast majority of U.S. public school students. Both consortia are designing assessment systems—a set of tools schools can use to identify whether students from grades 3–12 are on track for postsecondary success; where learning gaps exist; and how to address them before students enter college or the workforce.

Both PARCC and SBAC assessments will be administered on an interim and summative basis. However, their approach to assessment differs significantly. PARCC is developing a "fixed form" system, in which all testing questions are identical. SBAC is developing a computer adaptive system that adjusts the difficulty of questions based on a student's response.

[Twenty-one states](#) and the District of Columbia are members of PARCC, encompassing 25 million students. [Twenty-four states](#) are members of SBAC, encompassing 19 million students. (North Dakota and Pennsylvania are members of both consortia.)

PARCC and SBAC pilot testing begins during the 2012–2013 school year, with a move toward full operational implementation in 2014–2015.

Technology in Common Core Assessments

As indicated, the new Common Core assessments will be delivered online. This means schools must have the hardware, software, and infrastructure necessary to support security and compatibility requirements in place for deployment in 2014.

PARCC and SBAC have gone to great lengths to survey and understand technology readiness in schools today. They have also designed technical specifications that accommodate the current installed base and build toward the future. The consortia's expectation is that assessment development will mirror technological advancement and that online assessments will evolve over time.

To that end, both consortia are identifying minimum and recommended technical specifications for 2014 and beyond. The following links provide the latest updates of these specifications:

- PARCC: parcconline.org/technology
- SBAC: smarterbalanced.org/smarter-balanced-assessments/technology

Apple and Common Core Assessments

Per the minimum PARCC and SBAC specifications, students will be able to take assessments using Mac desktop and notebook computers and iPad devices. The above links keep updated lists of allowable Mac operating system versions. For iPad, students may take assessments on second-generation iPad or later, running iOS 6 or later.

Security is a primary concern in taking online assessments. iOS 6 includes features that can help configure an iOS device for taking assessments.

Configuration for Online Assessments

Any device used for assessment must provide at least one way to limit the device to a single assessment application. And it must include the ability to disable hardware or software features that would let a test-taker circumvent the assessment and invalidate the results.

iOS 6 and Online Assessments

iOS is the foundation of iPhone, iPad and iPad mini, and iPod touch. With the release of iOS 6, Apple introduced the Guided Access feature and its single app mode extension, which can be used to limit an iOS device to a single app.

Guided Access

Guided Access is an iOS accessibility feature that allows a parent, teacher, or administrator to limit an iOS device to one app.

Once enabled, Guided Access disables hardware buttons and their functions, including:

- Home button (except for the triple-click function as explained below)
- Side Switch, when used to lock screen rotation
- Side Switch, when used to mute system-generated sounds (such as chimes and other notification sounds)
- Sleep/Wake button
- Home and Sleep/Wake button combination (used for screen capture)

Guided Access also prevents system software services, such as Notifications, from inbound communication with the user. It can also restrict touch input on certain areas of the screen.

Using Guided Access

Guided Access is one of the many built-in accessibility features of iOS 6. It helps students with disabilities such as autism remain on task and focused on content.

You can also use Guided Access to help configure iPad for assessments. Because Guided Access is enabled and launched right on the device—requiring a the user ("guide") to touch each device—it may generally be appropriate for smaller-scale implementations.

Configuring Guided Access

To enable Guided Access on iPad, go to Settings > General > Accessibility > Guided Access. Once you enable Guided Access, you can set a passcode. If you don't set a passcode at this point, the guide is prompted to create one on first use of Guided Access.

Enabling Guided Access automatically enables the Triple-click Home feature (see below).

Launching Guided Access

You can launch Guided Access only after launching an app. To start a Guided Access session, triple-click the Home button and enter the passcode. You can now adjust settings.

Guided Access gives you the option to disable touch input to all or some areas of the screen and to disable motion detection.

To disable Guided Access, triple-click the Home button and enter the Guided Access passcode.



Enabling Guided Access

Configuring Guided Access

Single App Mode

Single app mode is an extension of Guided Access that limits iPad to a single app. You can enable and administer it off-device using remote management tools, such as [Apple Configurator](#)—a free utility from Apple that lets you quickly configure large numbers of iOS devices with the settings, apps, and data you specify.

Single app mode can also be configured wirelessly using [Mobile Device Management](#) (MDM) software, such as Profile Manager in OS X Server or other MDM offerings from third-party vendors.

Because single app mode can be enabled and disabled on many devices simultaneously, most schools will find it better suited for large-scale deployments.

Like Guided Access, single app mode disables hardware buttons and functions, including:

- Home button (except for the triple-click function)
- Side Switch, when used to lock screen rotation
- Side Switch, when used to mute system-generated sounds (such as chimes and other notification sounds)
- Sleep/Wake button

Single app mode also prevents software services, such as Notifications, from communicating with the user. Unlike Guided Access, you can't use single app mode to restrict touch input on certain areas of the screen.

Uses of single app mode

Because single app mode is enabled and administered remotely, you may want to use it if you need to configure large numbers of iOS devices for assessment.

iOS devices are connected to Apple Configurator using a USB connection. Apple Configurator is often used in conjunction with a mobile cart that can charge and sync devices. In some assessment workflows, it may be advantageous to enable and disable single app mode on devices that are dedicated to the assessment task for a relatively long period.

While Apple Configurator enables and disables single app mode using a USB connection, MDM software does the same thing wirelessly and can scale to manage thousands of devices. An MDM administrator can select a group of supervised devices, then launch single app mode for the assessment app on those devices. This launches and locks the assessment app; when the assessment is complete, the administrator can remotely disable single app mode.

It may be best to use MDM software for assessment workflows in a one-to-one learning deployment of iPad. MDM deployment can turn a general-purpose learning device into a dedicated assessment device, and then return it to its original state when the assessment is complete.

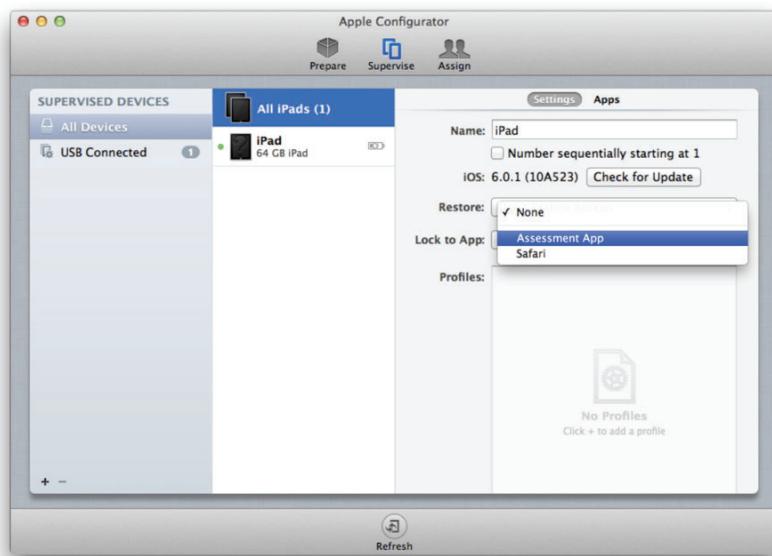
To learn more about iOS deployment, Apple Configurator, and MDM software, see the [iOS 6 Education Deployment Guide](#).

Configuring iPad for single app mode

Whether you use Apple Configurator or MDM software to launch single app mode, you'll first need to put the assessment iPad devices in "Supervised" mode using Apple Configurator. Apple Configurator can simultaneously configure multiple USB-connected devices.

Launching single app mode with Apple Configurator

Once the device is in Supervised mode, use Apple Configurator to enable and disable single app mode by selecting the assessment app from the "Lock to App" pop-up menu.

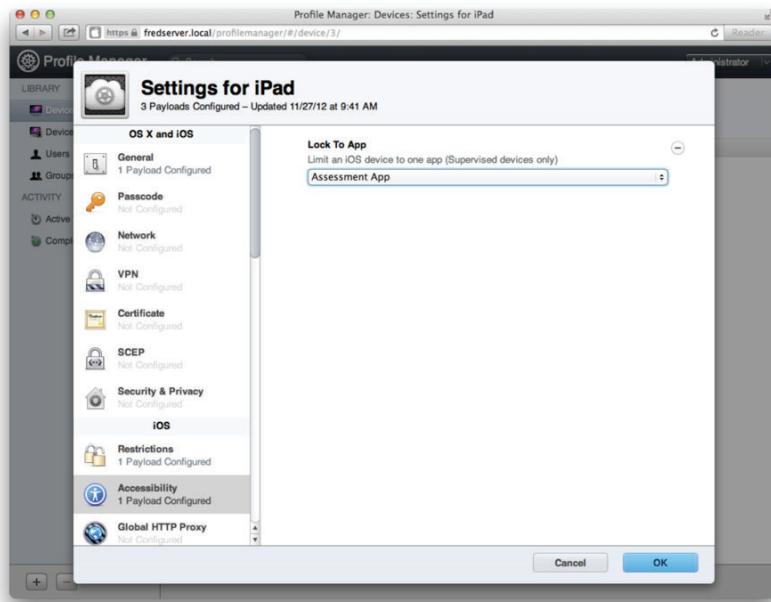


Launching single app mode with MDM software

You can also use MDM software to enable and disable single app mode. MDM software allows organizations to manage large-scale deployments of iOS devices and is available from Apple and a number of third-party vendors.

Profile Manager, Apple's MDM solution, is part of OS X Server. It provides a device management server that lets you remotely manage enrolled Mac OS and iOS devices. After enrolling a device with Profile Manager, you can update its configuration over the network without user interaction, and you can generate reports or lock and wipe the device.

To enable single app mode using Profile Manager, select the assessment app from the "Lock to App" pop-up menu on an enrolled, supervised iPad.



Design and Usability

Some hardware configuration and software design issues have been identified and are being researched by assessment organizations and assessment software vendors.

Keyboards

iOS devices are characterized by Multi-Touch-based input. Assessment app vendors are evaluating the impact of touch input and software keyboards in place of hardware keyboards and mice. At present, both SBAC and PARCC require the use of external keyboards for the 2014 assessments.

Bluetooth keyboards for iPad are available from Apple and third-party providers.

Display size and screen resolution

Every generation of iPad features a 9.7-inch display. iPad mini features a 7.9-inch display. PARCC and SBAC have specified a minimum screen size of 9.5 inches for the 2014 assessments, which could be revisited after 2014 with further research.

The screen resolution of iPad 2 is 1024 by 768 pixels, which meets the minimum technical requirements of both PARCC and SBAC. Third-generation iPad and iPad with Retina display feature a screen resolution of 2048 by 1536 pixels, which also meets the minimum technical requirements of both PARCC and SBAC.

Text and data entry features

iOS provides a number of features designed to facilitate text and data entry, such as spell-checking, auto-correction, grammar-checking, and dictionary lookup. Depending on the nature of the assessment, these features could provide an advantage to the test taker; however, these features can be disabled by a software vendor when developing an assessment app.

Conclusion

New online, high-stakes assessments that measure the Common Core State Standards, as well as existing state standards, are meant to help reinvigorate K–12 instruction. A core belief in developing these assessments is that they take full advantage of contemporary digital technologies such as iPad. Apple will continue to work closely with schools and school officials to help achieve this goal.

For More Information

For more information or assistance, please contact your local Apple representative or call 1-800-800-2775.

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