# The iPad in the Classroom

**An Overview for Teachers of Children and Young People with Visual Impairment**

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This publication is intended to act as an introductory guide to using iPad within a classroom environment, and in particular, when working with children and young people with sight loss.

It is targeted at the teacher or classroom assistant who is new to iPad and who doesn't have previous knowledge or experience. It is hoped that through this approach, the information contained within the guide will be of benefit to many people. We will endeavour to update this guide as developments emerge.

## What is iPad?

iPad is a lightweight, wireless tablet computer line produced by Apple Inc and first introduced in the UK in April 2010. Since the introduction of the first generation iPad in 2010, the popularity of tablet computers per se has exploded to the extent that tablets are now significantly outselling traditional computing devices like laptops and desktops. iPad has established itself as the top selling tablet computer in every quarter since the product launched.

There are currently two variants of iPad available, iPad and iPad Mini. iPad features a 9.7 inch LED backlit display while iPad Mini features a smaller 7.9 inch LED backlit display. The current model 4th generation iPad features a high resolution Retina display while the more affordable iPad 2 and the smaller iPad Mini both feature a lower resolution display.

The 4th generation iPad is available with four different storage capacities, 16GB, 32GB, 64GB and 128GB. It is important to point out that iPad is non expandable and we would therefore encourage any prospective buyers to give careful consideration to the amount of storage required.

Like most tablet computers, iPad operates on a mobile software platform called iOS. This is the same software platform that the iPhone and iPod touch operate on, making the device instantly familiar to many people. This also means that a user who is familiar with an iPod touch or iPhone can transition to iPad with considerable ease.

iPad currently has access to over seven hundred thousand applications or apps on the App Store, with more than two hundred and twenty thousand of these apps specifically designed to take advantage of the large iPad display. Tablets running on other software platforms are typically using scaled up mobile apps rather than apps designed specifically for the larger tablet displays. It is possibly for this reason that many people have chosen to use iPad over other rival tablets.

## Why might iPad be of interest to teachers of children with a visual impairment?

All iPad models feature Apple's well developed suite of integrated accessibility features which have gained much recognition among the blind and low vision community in recent years. Because these features are baked into the operating system, they work very smoothly and are intuitive and easy to learn for users of all ages. Another benefit of these features being integrated is that they are constantly updated and improved as and when software updates become available. Being integrated into the operating system, the is obviously no additional cost for a blind or low vision user.

## What accessibility features does iPad have for persons with blindness or low vision?

iPad includes a built in screen reader called VoiceOver which is operated using gestures rather than traditional keyboard commands. VoiceOver can be customised to suit the language and reading speed preferences of the particular user. It works across the operating system and does not rely on the user having any residual vision. Indeed it is very possible for a blind user to operate iPad independently with the screen turned off using a feature called the screen curtain.

iPad also includes Zoom, a built in system wide dynamic screen magnifier. This means that magnification is available full screen across all of the operating system. Like VoiceOver, Zoom is easily operated using simple and intuitive gestures which allow the user to control the magnification, varying the level and toggling magnification on or off.

iPad also features a facility called Large Text which allows the user to specify a desired font size for certain key applications, Mail, Messages, Notes, Calendar and Contacts. This feature can be used in conjunction with Zoom and once optimised, the low vision user can create a mix of large text and magnification across the device, allowing them to maximise what they see on screen and only use magnification where it is necessary.

There is also an Invert Colours facility within the accessibility settings. As the name suggests, this feature allows the user to alternate between light on dark and dark on light to suit their particular visual requirements.

Due to iPad having a small concave button on the face of the device known as the home button, it is possible to set up a toggle facility which makes switching on and off these accessibility features extremely easy and fast. This feature means that the user does not have to burrow into on screen menus to change the accessibility settings. Low vision users in particular can switch VoiceOver on and off rapidly if they wish to alternate between reading with their eyes and listening via VoiceOver.

## Connecting with other devices

iPad offers the opportunity to connect a wide range of Bluetooth enabled devices including a range of external keyboards. Blind users who read Braille can also connect any of the leading electronic Braille displays to allow them to use a combination of speech and refreshable Braille.

Teachers wishing to use iPad within the classroom can also connect the tablet to a standard LCD screen projector via a simple iPad to VGA connector which allows you to project what's on the iPad screen directly onto the projector screen. The iPad to VGA connector is readily available from Apple Stores or Apple resellers.

iPad can also be connected wirelessly with Apple TV which is a small media streaming box available separately from Apple. Connecting an iPad via Apple TV allows teachers an interesting alternative to an interactive whiteboard. Content can very easily be mirrored from iPad straight onto a large screen television via Apple TV. Some schools are already successfully embracing this approach within their classroom setup.

In addition to connecting iPad with the above devices, there is an ever increasing range of third party accessories being created specifically for iPad. Items like microphones, guitar audio interfaces, heart rate monitors and an ever increasing range of wearables such as fitness bands are allowing iPad to become an even more flexible tool within an education setting.

A wide range of stands, cases and speakers are available for iPad from various manufacturers. Many students with low vision will benefit from the use of a stand which will help to improve their posture. It is now possible to purchase a stand which holds iPad at almost any angle, allowing low vision students to achieve the optimum viewing position.

## Synchronisation and Backup

iPad can either be backed up manually to a PC or Mac with iTunes installed. Or the device can more easily be backed up wirelessly to iCloud, Apple's cloud based storage service. A backup typically includes all apps, device settings and content of various apps such as documents and images. If using iCloud with a number of iPads, the same apps and content can be held on and synchronised across a number of devices, provided all of the devices are registered it the same account and Apple ID.

It is absolutely crucial that each device is backed up regularly to avoid any loss of content. Should a device become damaged or lost, it is then very simple to create an image on a replacement iPad.

## What are the key differences between iPad and a traditional computer?

Typically with a traditional computer there will be a display, keyboard and other input device such as a mouse. iPad offers a very different proposition in that its form factor integrates all of these elements into one simple device. Crucially iPad is a touch based device without a physical keyboard, so it is a very different type of user experience from a traditional computer. Other key difference include:

* iPad does not offer a structured filing system like a traditional computer.
* iPad is non expandable and non user-serviceable beyond simple wireless software updates and resets.
* iPad has direct access to a rich eco system of apps across a wide range of genres including education, games, reference, social networking, medical etc. iPad is however tied to the Apple iOS operating system and the apps sold by Apple.
* It is not possible to use memory cards or other removable storage formats with iPad.
* There is not yet any integrated system of user accounts which will allow iPad to be securely used by a range of users.
* iPad is wireless and will not connect readily to peripherals designed for a traditional PC
* iPad features an in built camera module allowing the device to take advantage of a wide range of apps which utilise the camera, including low vision specific apps which effectively turn the device into a reading machine.
* Third and fourth generation iPad devices feature a dictation button on the onscreen keyboard. This allows blind and low users to speak directly into the device and have their speech converted directly into text for editing on screen.
* Due to its touch based interface and custom applications, new users will need to undertake some initial sensitisation before using the device, although it should be noted that the system is extremely easy to learn.
* Accessibility features are built into every iPad, so there is no need to install any extra software or incur any additional expense when a blind or low vision person wishes to use the device.
* Many people believe that devices such as iPad are better suited to content consumption tasks rather than content creation tasks. However it should be noted that with the addition of an external keyboard, many users believe iPad to be a powerful document creation tool. As with any technology however, it is very important to carefully consider the range of uses before deciding to go ahead and purchase a particular device.

## Key Resources

Please check back regularly for updates and also for research/survey findings and other resources including a new short film series which will introduce you to the accessibility features of iPad and how these might be used within a classroom environment. We are also able to offer a one day training module for learning providers working with children and young people with visual impairment.

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