

# iPod

## A White Paper

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## Overview

Educators at nearly all grade levels are examining tools required to produce the 21<sup>st</sup> century skills today's students need to succeed in their schools, future workplaces, and their daily civic lives. One device that many educators are using to support their curricula that already has great results is the iPod. iPod is a popular product of portable media players designed and marketed by Apple, Inc. It is easy-to-use for storing and playing audio, images, and video. Though this device is widely known as a music player, it is that and so much more. It has become a new instructional technology that can be used in the hands of individual students and teachers. iPod and all accessories are widely available at general retail environments. An iPod can range in price from \$49 to \$229. There are different versions of iPods available in the retail market. iPod shuffle, iPod nano, iPod classic, and iPod touch are the current versions, which all have different storage capacities. Introduced in the fall of 2001, Apple's iPod has captured 78% of the MP3 market. The iPod can be used as an external data storage device enabling it to save photos, notes, calendars, and contact files; in addition it may store other files you might keep on a portable hard drive. There are various accessories that can be added to enhance the capabilities of the iPod the learning process.



Educators and schools ranging from K-12 have started using the iPod to enhance their current curriculum and to support national and state standards in content areas such as – mathematics, science, reading, foreign language, and history among others. Real case scenarios in which the iPod can be used are to support second language learners, address the needs of diverse learners, motivate struggling readers, and enhance K- 12 classroom instruction, to name a few. Language learning is among one of the most innovative disciplinary areas for the development of new learning technologies, especially in the emerging area of mobile learning. Since the iPod is portable, students are able to learn where and when they want. When teachers are using this portable learning tool in their classroom they are helping their students achieve 21<sup>st</sup> century literacy.



In conjunction with the iPod, using Apple's iTunes makes these two pieces of technology a perfect combination for delivering various domains of content. iTunes is an application for organizing and playing digital audio and video content. It is user friendly for managing the content on an iPod. iTunes is available as a free download which is compatible with both Mac and PC computers. iPod and iTunes work together to synchronize music, video, and other files from a computer with the iPod. iTunes can also be used to purchase music, television shows, feature-length movies, audio books, and free podcasts via the iTunes store. Through the iTunes store, audiobooks are made



available by a provider called audiblekids.com, which is known for promoting storytelling through audiobook format.

Outside of the K-12 classroom learning environments, iPods are making an impact on college campuses. Universities throughout the nation are transforming iPods into educational tools, not just a music listening device that students listen to as they are walking across campus. Apple looks forward to all higher education institutions using “iTunes U”, which is a nationwide service that enables lectures and other materials from college courses to made available online. Many teachers need to continue to go against the norm, and allow the use of iPods in the classroom. Once said by Don Knezak, chief executive of the International Society for Technology in Education, “This is the kind of technology they use for their daily lives. If schools want to reach today’s learners, they cannot ignore it.” Educators cannot ignore the prevalence of technology on the rise in and outside the classroom. By continuing to become familiar with Apple’s iPod is one step in the process of revolutionizing today’s learning.

### **Learning with an iPod**

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iPods and iTunes provide a great way for educators and students to access valuable educational resources. This may be subject matter from preexisting sources or even content that students have created themselves. In addition, by adding a small voice recorder such as Belkin’s TuneTalk stereo microphone (\$59.95) or Apple earphones with remote and microphone (\$29), the iPod can be used as a tool for producing content. This can help those needing aide in second language acquisition in ones classroom. Educators can use this to help students learning a foreign language other than their native language. They can listen to audio recordings to learn words and phrases in addition to hearing the proper pronunciation of those words. Students also can record themselves using the iPod and a voice recorder to practice the language and improve their own fluency. In addition to aiding second language learners, the iPod can help build student’s reading fluency.



Students who are struggling readers may not know what it is like to sound like a fluent reader. By using the iPod and a voice recorder, in addition to a free downloadable program called Audacity, they can read a passage and allow it to be recorded. The teacher and the student can sit down one-on-one and edit the recording by eliminating pauses and miscues so that the student sounds as fluent as possible. The recording can then become the bar that the student should strive for when reading aloud. As an early childhood educator, it is our job to help students improve their fluency in reading. Using this piece of technology as a motivation device for those struggling readers is a way that technology really can revolutionize our one-on-one instruction.



When adding a suitable microphone to the iPod, there is almost no limit to what can be achieved in the classroom. Students are able to listen to information via the iPod and then record their responses to what they hear. Students can add their own audio files, text notes, voice memos, and calendar entries to classroom iPods. They can share personal notes and use the audio files which enable



individual students self-paced learning abilities. Educators can purchase an iTrip (\$49.95) or any other FM system broadcasting device that can be added on to the iPod. Students can play what they record back on an ordinary FM system for the whole class to listen to. This allows the iPod to reach the whole group rather than one individual listener.

Students may not be interested in listening to a book via cassette tape and having a hard copy of the book on hand in a listening center. By extrinsically motivating students with an iPod in a listening center with audio books can possibly change a student's perspective of reading from a negative to a positive. Audiobooks can be purchased for use on the iPod or students can create their own audiobooks with a voice recorder and actually become the "voice" of the book. The iPod can become one with the listening center concept as it a child's auditory and visual senses are receiving input. For example, Eric Carle's *The Very Hungry Caterpillar* can be purchased on iTunes through audiblekids.com for 99 cents. If synced (copied) to an iPod, it can be placed into a listening center with a hard copy of the book in addition to headphones and an iPod to allow students to become "hooked" on reading. The iPod has many uses outside of improving students' reading capabilities.



The iPod creates possibilities for integrating science content in the hands of students. The iPod can be used as a flashcard study aide. By including pictures of biological dissection, body parts for anatomy and physiology, or formula sheets identify each of the variables in a physics or chemistry mathematical formula. They can also upload pictures of different types of clouds in the atmosphere in addition to types of rocks that one may be currently studying. Using this as a study aide allows students the chance to place such vivid images and topics of a classroom discussion or lab onto a portable format for student access on the iPod.

### **National Educational Technology Standards (NETS)**

*The International Society for Technology in Education (ISTE) has developed standards that help teachers effectively model and implement technology into the educational setting. ISTE has a set of standards for students (NETS\*S) and teachers (NETS\*T). The iPod as a tool to enhance learning in the general education setting allows teachers to meet standards set forth by ISTE.*

<b>NETS*S</b>	
<p><b>Creativity and Innovation</b></p> <p>a) apply existing knowledge to generate new ideas, products or processes.</p> <p>b) create original works as a means of personal group expression.</p>	<p><i>Students are able to create original recordings on topics previously learned in the classroom. They are able to put their own input into these recordings which allows one to express themselves in such a way.</i></p>
<p><b>Communication &amp; Collaboration</b></p> <p>b) communicate information and ideas effectively to multiple audiences using a variety of media formats.</p>	<p><i>Students are able to work together as a class with the iPods and create work that can be posted on a classroom website as an mp3 file. This can allow outsiders of our classroom community to use their auditory skills to hear what is going on in our classroom.</i></p>

<p><b>Digital Citizenship</b></p> <p>a) advocate and practice safe, legal, and responsible use of information and technology.</p> <p>b) exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.</p> <p>c) demonstrate personal responsibility for lifelong learning.</p> <p>d) exhibit leadership for digital citizenship.</p>	<p><i>Students are able to understand that all material that is listened to in our classroom is legal and has been purchased prior to listening. They also understand it is appropriate for our listening community. The students will also be working together with the iPods to help support our technology friendly environment of our classroom and to promote the lifelong learning with the iPod.</i></p>
<p><b>Technology Operations &amp; Concepts</b></p> <p>a) understand and use technology systems.</p> <p>b) select and use applications effectively and productivity.</p> <p>c) troubleshoot systems and applications.</p> <p>d) transfer current knowledge to learning of new technologies.</p>	<p><i>Students, by learning and using iPods on a regular basis in the classroom, will become more comfortable with manipulating such a technology as an educational tool. They will also be able to use their own iPod (or mp3 player) in a classroom setting. By teaching children how to use the playlist setting, students will be able to build a playlist of books that they enjoy to read. This will allow teachers to know what their students are interested in reading about.</i></p>

<p><b>NETS*T</b></p>	
<p><b>Design and Develop Digital-Age Learning Experiences and Assessments</b></p> <p>a) design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity.</p> <p>b) develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress.</p> <p>c) customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources.</p>	<p><i>iPods are a way for students to have control of expressing their creativity through their learning. Students are able to use this for multiples usages and have hands-on experiences with mobile technologies. Teachers can pick out books that can be on the iPod that are at the reading level of students and place this audio recording of the book in the students own playlist. This would help customize their own learning as they continue to grow as readers. Students can also pick out books and allow the teacher to know this is a book that they would like to read next. The teacher could use this resource of iTunes to find an audio recording of that book and/or create their own recording with the TuneTalk add-on.</i></p>
<p><b>Model Digital-Age Work and Learning</b></p> <p>a) demonstrate fluency in technology systems and the transfer of current knowledge to new</p>	<p><i>Students are growing up in the 21<sup>st</sup> century. As teachers we must continue our learning by seeking ways of technology that can improve</i></p>

<p>technologies and situations.</p> <p>c) communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats</p>	<p><i>the students' learning. The teacher must know how to work this type of technology in addition to aide students when they are learning to manipulate with it also. iPod is a tool that can be used to communicate to outsiders of our classroom. By using this as a way to create podcasts, digital diaries, or even weekly classroom bulletin updates that can be posted for parents to read on a website or to be used for faculty and staff for weekly meetings, we meet the need to use this type of media as a form of communication.</i></p>
<p><b>Promote and Model Digital Citizenship and Responsibility</b></p> <p>a) advocate, model, and reach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.</p> <p>b) address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources.</p>	<p><i>It is a teacher's job to promote as well as model digital citizenship and responsibility. By purchasing audio tracks and books via iTunes and/or other means of mp3 stores, one is modeling the ethical issues of technology these days. Students need to know that credit is due where credit is deserved. By publishing our own content, the teacher can teach students about how that is our own audio content that now can be copyrighted since we made it. By making the iPod as a way for diverse learners to learn, we can use our own teaching strategies as a way for this standard to be met.</i></p>

### **Environmental Factors**

Capturing the attention of today's students can be challenging. Using an iPod as a mean for technology integration in the classroom is a way students can be engaged in learning. We must consider various environmental factors when implementing this piece of technology into a classroom setting. If only one iPod is available in a classroom, that is not allowing all children the chance to have hands-on opportunities with that single iPod. This can prolong assessment, opportunities for students to engage with the piece of technology, and also make the time of the lesson prolong for longer than originally intended. A teacher also would have to consider a student's technology knowledge before introducing this concept in the classroom.

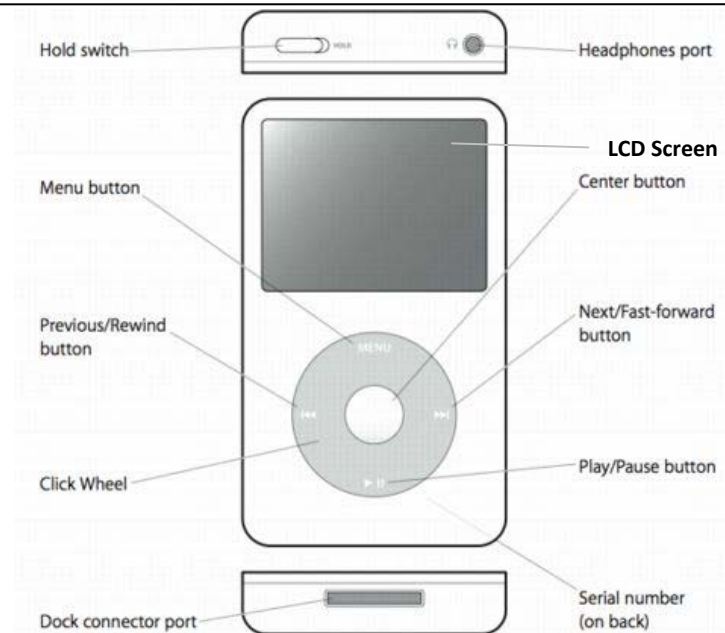
Since iPods and other portable MP3 players are becoming more affordable for parents, many students already own their own. This would be a good idea to know when conducting a beginning of the year survey, as a teacher could load podcasts or online readings of books read in class for students to download to their own personal iPod or MP3 player. As an early childhood educator an environmental issue that may arise in a classroom setting would be licensing issues. It would be imperative for teachers to model safe, legal, and ethical use of



digital information used in the classroom. To not illegally download books that can be used in the classroom on the iPods.

## **How it works**

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### **Turning iPod on/off:**

On an iPod, there is not a designated switch that enables you to turn your iPod on and off. If you would like to turn on an iPod, just press any button and make sure that the Hold switch is not engaged.

### **Display:**

iPods that have video capability are able to display navigation menus, audio file information, photos, video, album art, playlists, volume, audio file progress, the time, personal contacts, calendar, notes, a stopwatch, and a screen lock control.

### **Click Wheel:**

The click wheel is a touch-sensitive pad that sense movement as you glide your finger across the surface area. It is much like in comparison to a mouse trackpad on a notebook computer. With this click wheel you can turn up the volume, move through to another audio track, view your photo collection, and so much more. Listed below are components of the Click Wheel:

- **Play/Pause Button:** After choosing a song, a video, an audiobook, or a podcast, press the play/pause button which allows the selection to be played or paused. If one wants to view photos, they can choose any photo or album and press this button to play or pause the slideshow. It is reminded that pressing and holding the play/pause button also turns off the iPod.
- **Center Button:** This button in the middle of the click wheel let one choose the currently highlighted menu item shown on the display.

- **Menu Button:** This button allows one to go back to the previous menu viewed. It is much like the back button in a web browser that goes back to the previous page.
- **Previous/Rewind Button:** If you are playing a video or audio file on the iPod, you can press the previous/rewind button once or rewind through the current file by holding the button down as long as needed. If looking at pictures or a slideshow, this button takes you back to the previous screen of photos or previous photo in slideshow.
- **Next/Fast-forward Button:** If you are playing a song or audiobook, one can skip to the next song or chapter in the list by pressing the next/fast forward button once. If needed, one can press the fast-forward button through any audio or video file as long as it is needed. If looking at pictures or a slideshow, you can press this button the skip to the next screen of photos or next photo in slideshow.

#### **Dock Connector Port:**

Loading files, photos, songs, and videos content onto an iPod is simple. The iPod dock connector on the bottom of the iPod lets one connect, sync (load files onto the iPod) and recharge quickly all with the included Universal Serial Bus (USB) cable.

#### **Using Audiobooks on iPod:**

If using the iPod to listen to an audiobook that has chapters, the next/fast-forward or previous/rewind button can be used to skip to the next chapter or the beginning of the current chapter in the book. These two buttons can also be used to move quickly through the book.

### **Benefits and Drawbacks of the iPod**

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#### **Benefits:**

iPods in the classroom augment an educator's power. It makes it possible for educators to teach and place the learning in the hands of the teacher and of their students, both literally and figuratively when using Apple's iPod in the classroom. The iPod has numerous ways that it may be implemented in the classroom. Students are able to author and publish their own works via a Podcast (a process that captures audio which is then posted onto a website or blog) or to create their own digital journals. This piece of technology can help educators meet the accommodations that are needed to reach the whole-child. It can be used as an assessment tool which allows educators to record their students with an optional voice recorder. In addition, as an accommodation, the iPod can be used for auditory reinforcements. Used in such a way that a teacher can administer a test to a student who learns best with their auditory skills or even used as a reinforcement for oral instructions on an activity. These simply are only two uses of accommodations for students. The iPod can do a lot to reach the parents outside of the classroom walls. Used as a communication device, students can record messages for their parents or a teacher can record a weekly update to then be placed on a classroom website or blog. The iPod is a mobile device as we already know. It could be checked out by students and used as a take-home resource to enhance the learning of the students. Technology and Learning research by Monica Beglau says, "Students exposed to collaborative multimedia-rich programs show significant gains in performance on classroom assessments and on standardized tests". Apple's iPod has many more benefits that can be found via the resources page and should all be considered when deciding if this is the right means of technology to incorporate in an educators own classroom setting.



**Drawbacks:**

While many of the benefits of using iPods in the classroom do seem rather appealing, there are a few drawbacks that must be considered when implementing this into a classroom. The device does have a short battery life that has remained an issue with Apple. The advertised better life on most models is different than that of the “real-world” achievable life. It has been stated that one iPod model was expected to last for up to 14 hours of playback, when actuality it only was getting an average of less than 8 hours of playback. Also, it has been shown that the iPod’s battery degrades over time and is technically not designed to be removed or replaced by the user. This can have an impact on the classroom if not taken care of properly and not following the guidelines now included in all iPod boxes that will help prolong the life-span of the batteries. If a teacher is not careful and does not abide by them so, it could possibly cause disarray in the lesson for the day. In addition, if the batteries are getting weak, it could cut off on students while they are working in the listening center. Teachers need to think carefully of what will benefit the students they are teaching when deciding on what type of iPod to purchase. The iPod shuffle has tended to when listening to audiobooks mix up the novel’s chapters. Some higher education educators worry that using iPods in the classroom will encourage isolation because some students may substitute iPods for attending class and may use it for other purposes other than promoting learning while in the classroom.

**Conclusion**

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Educators all around the country have had success when integrating the iPod into their curriculum. The fact at which iPods are slowly creeping into the educational environment is a wakeup call to all that are involved in education; that we must become advocates for technology as it constantly changing and evolving. Students are more wired than ever before, and if we do not take advantage of the natural comfort of our digital native students, then we may not reach all of the students. It is known that you must adapt lessons to meet the needs of your individual students in the class. Today’s students are a new type of student; one that wants to play an active role in the learning process and take control over when they can access materials. We must enhance our learning and our classrooms by changing our old-school tactics, and begin to educate in new ways to meet the needs our technology savvy students.

## Resources

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*Below is a guide of resources that can be used for implementing the iPod in your own classroom. Many of these sites are evolving as this type of technology provided by Apple is constantly changing. The means and uses of the iPod are being developed more and more each day. These are a starting point for one to look more into the ways the iPod can transform your future curriculum.*

## Articles

March 18, 2005. [“Seriously, iPods Are Educational”](#). The Chronicle of Higher Education article by Brock Read.

October 19, 2005. [“iPods Fast Become New Teacher’s Pet”](#). Washington Post article by Fern Shen.

March 1 2006. [“In iPod We Trust”](#). T.H.E. Journal article by Mikael Blaisdell.

March 16, 2006. [“iPods Now Double As Study Aide”](#). USA Today article by Ken Funson.

October 2006. [“Reading Buddies: iPods Go to School”](#). Learning & Leading with Technology article by Kimberley Ketterer and Carol Greig

October 9, 2007. [“In Some Schools, iPods Are Required Listening”](#). The New York Times article by Winnie Hu.

May 14, 2007. [“Using iPods for Instruction”](#). The Principals Partnership research brief by James Dogbey

February 2008. [“iPods in Science”](#). Learning & Leading with Technology article by Jared Mader and Ben Smith.

May 23, 2008. [“Who Says You Shouldn’t Use Your iPod in Class?”](#). Florida Catholic Schools publication by Amy Smith.

## Information

- [Getting Started](#): A guide for using iPod and iTunes for teaching and learning.
- [iPod](#): An overview of the history and the ways the iPod has evolved since 2001.
- [Apple + iPods](#): At Georgia College & State University’s website about using iPods in the higher education setting.
- [iPods for the Classroom](#): Millville School District’s workshop and training session on iPods.
- [iTunes U & Mobile Learning](#): Tunes U is a part of the iTunes Store featuring free lectures, language lessons, audiobooks, and more, that you can enjoy on your iPod, iPhone, Mac or PC.
- [Apple + K-12](#): Apple helps schools engage students with a 21st century digital learning environment that mirrors the way they live – and increasingly would like to learn.