

iPods in Class

iPods in instruction at "School in the Park"



Foreword

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BMUKK, Präs./IT



By making 30 Apple iPod touch media players available to “School in the Park” for a two-year educational project, the Ministry for Education, Arts and Culture is putting this globally popular cult product of the digital age into the hands of primary students as well. International studies, particularly in Great Britain, the USA, Canada, Australia, New Zealand, make reference to numerous advantages offered by such devices:

- The advantages of enhanced media players, which offer almost the functionality of a full computer, are recognised by children and teachers, resulting in increased motivation.
- Thousands of apps (often free) centrally available via iTunes simplify or enhance the teaching and learning processes.
- The 1-to-1 ratio, one iPod per child, fosters independence and responsibility, particularly when students are permitted to use the devices at home and during their free time. Group work and cooperation are also promoted.
- The option of unlimited Internet access is ensured via W-LAN, although in practice, availability is limited, since

hot spots are not found universally. Access via a router or a mobile wireless solution are possibilities for schools.

- Media use, considered in the positive sense, also contributes to media education. Today, knowledge of media is often acquired outside of school. This is another reason why it is necessary to bring the devices that today’s children are growing up with into the classroom.

The iPod touch can be used as a music and video player, photo viewer, game console, Internet PC with an e-mail account and for managing schedules, contacts and notes, as a dictation and recording device, pocket calculator, stopwatch and independent mini-computer. All these options give rise to a wide range of possible uses in a school setting as well.

The goal of the iPod project is to evaluate the extent to which the positive results reported by studies in North America, Great Britain and Oceania can be confirmed. Do iPods help provide primary school children with access to digital content during learning? The use of the iPods shall be documented and empirically evaluated. Publication of the project is planned for autumn 2011.

Dipl. Päd. Peter Sykora

Teacher of the iPod project class



The iPod project is already the second new media project undertaken at our school with the support of the Ministry for Education, Arts and Culture (BMUKK). From the school

years 2005/06 to 2008/09, the project class made use of Web 2.0 resources in the classroom, such as wikis, podcasts and the video portal YouTube. Our school blog was also started at this time, and students have even sent friend requests to the blog via Facebook after leaving the school.

As part of my teaching activities at the University of Education in Vienna (PH Wien), I continued to study current developments in the IT field and focused in greater detail on the mobile world of interactive applications: moblogs, Twitter, Facebook and various Apple apps became exciting fields of activity.

Motivated by what was learned in the Web 2.0 project, new ideas, numerous discussions with students at the University of Education, as well as the wish to make use of the collected experiences in my work as a teacher, I submitted the iPod project to the BMUKK in mid-2009.

Thankfully, the ministry supported the idea and equipped the project team, as well as

24 students, with “iPod touch” devices of the newest generation (at that time).

Our progress with the iPods, ideas, experiences, difficulties and hopes are described here in brief; numerous images from class illustrate the exciting developments. Last but not least, the students of the project class, as well as their parents, are given an opportunity to share their experiences with the readers.



Project Description

iPods are great — not just for listening to music, but also for learning! That is what the students of 3b and their teacher, Peter Sykora, discovered in a two-year project supported by the Federal Ministry for Education, Arts and Culture (BMUKK), in which they used iPod touch devices (of the 3rd generation) in daily class work. The following goals were established:



Identification and **creation** of the organisational and technical conditions required for the use of iPods

- **Identification** of reliable options for storing and charging the iPods
- **Performance** of maintenance and updating the software
- **Provision** of the required peripheral devices and network access

Teaching competence in utilising new media

- **Training** the children in the use of hardware and software
- **Creating** an awareness of the responsible handling of new media and of possible risks, in particular, use of the Internet

Exploring the possibilities and limitations of iPod use in primary school education

- **Testing** various programs and applications (learning software, knowledge databases, podcasts ...) with regard to their benefits in the classroom



- **Use** in various educational subjects and during free time.

Development of didactic recommendations for teachers, parents and students

- **Documentation** and evaluation of the effects of iPods on motivation, work habits and communication
- **Informing** and educating parents on the use of iPods, particularly during free time
- **Sharing** the discoveries made during the course of the project in continuing education events for educators

Organisation and Technology

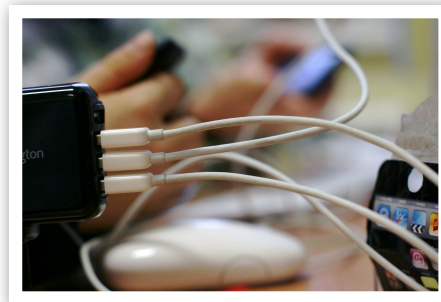
Various organisational and technical conditions must be fulfilled to allow the iPods to be used effectively in the classroom:

Storage

The iPods are stored in a combination-locked safe in the classroom. This ensures that the devices are always close to hand. The combination is known not only by the teacher, but also by the students, which promotes an awareness of responsibility because the code should not be shared with others. To help maintain order, every iPod, including headphones and cleaning cloth, is stored in its original packaging, which is labelled with the name of the respective child.



Charging



The devices are charged by five chargers for every four iPods (with charging cables) in the classroom. The students are responsible for this, and four children at a time act as “minders” for a month to supervise the charging. If an iPod has to be charged at intervening times, it is connected to the running PC via USB.

Maintenance

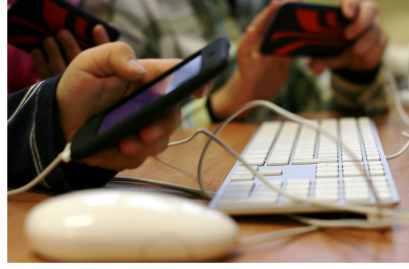
So far, no external maintenance has been required, the class teacher has exclusively been responsible for maintenance. Major problems arose only in a few cases, such as when one child accidentally deleted all



the programs and it was necessary to restore the default settings.

Updating

Updating of the software, such as installation of new versions, additional programs and photographs is a time-consuming process. First, the current data must be present on the MacBook of the class teacher, then this is transmitted to the iPods of all students one-by-one. Colleagues at the



school, as well as parents, assisted the class teacher during the laborious updating process performed every month.

Provision of peripheral devices and network access

Apart from headphones and microphones, all additionally required devices, such as printers or PC projectors, are connected to teacher's MacBook rather than to the iPods. The children can use the Internet with their iPods via W-LAN. After a test operation until De-

cember 2010, usage took place via W-LAN access financed by the parents.



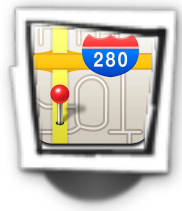
Selected Software

Apps preinstalled on the iPod, as well as downloaded for free from the WWW and via the Apple App Store, were used in the classroom. iTunes was used for managing the programs.

Apps preinstalled on the iPod:



Music: This program can download and display not only audio files, such as music and spoken text (e.g. fairytales), but also videos. Podcasts are particularly popular, such as video podcasts of Kinderuni [Children's University] or "The Show with the Mouse".



Maps displays maps from the WWW located by street names, geographic terms and points of interest. The program supports voice recognition. In other words, the search term can be spoken into the microphone.

Purchased apps:



Articles is a program that searches for terms in the Wikipedia online encyclopaedia and shows a summary of the entries and an image. Pages inappropriate for children do not appear. After typing in the first letters of a word, the program auto-suggests matching terms.



Tree identification: Trees can be identified based on specific features, such as the shape of the leaves and the trunk, blossoms and fruit colour. Detailed information and photos are available on every tree.

Apps (abbreviation of applications) are programs for mini-computers, such as iPods or iPhones.

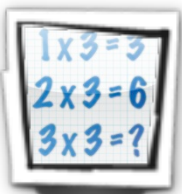
Wikipedia (comprised of the words "wiki" - Hawaiian for "fast" - and encyclopaedia) is an interactive online encyclopaedia in which users can create and edit the articles.



Dr. Brain: This brain training program teaches general education, logic and visual memory. Points are awarded for problems solved correctly within a specified time limit; as of a certain number of points, the program unlocks a more difficult level.



Doo Wop: In this music game, small monsters produce various rhythm sequences that are stored, combined and played back as a “concert”. A sound memory component is also integrated.



Times Tables is a multiplication trainer, starting with the 2nd row, with increasingly difficult problems until the 12th row can be solved. The possible responses are shown, and the problems must be solved within a limited time.



Slice it! This game involves cutting geometric figures into pieces as close in size as possible using straight lines. Slice it! is used as a supplement to geometry because it trains area comprehension and deduction.



What is what - Dinoquiz: This guessing game tests you about your knowledge of dinosaurs against one or more opponents. Fast answers are required when playing against time. Once you’ve collected enough points, a bonus game is offered as reward.

iTunes is a management program in which applications, audio files and video files can be organised, played, saved and purchased.

Podcasts (comprised of the words iPod and broadcasting) are audio or video files available on the Internet that are generally produced as a series and can be subscribed to. The most recent edition is automatically downloaded to the iPod over an Internet connection.

Didactics

In the “iPods in Class” project, iPods were used according to the Freinet philosophy of education. This means that the students are left to work with the devices in a largely self-directed manner.

The iPods have so far found use in all subjects, except for physical education, and a focus has been placed on interdisciplinary use.



Freinet: The pedagogical approach of the French educational reformer Celestin Freinet (1896-1966) assumes that children enjoy learning when they are allowed to decide for themselves what to do. Students decide on topics and methods largely on their own, with the assistance of the instructors.



For example, on the search for the term “bagpipes”, the children downloaded interesting information (educational content) and music videos (music) from the Internet. Since the students also work with English-language apps, they automatically learn English along the way. The iPods are suited for a variety of instructional forms. Instruction in use of the devices and the explanation of new apps takes place in a lecture style. During group work, one child generally makes notes on the iPod of the content worked through together. The children independently share experiences and solution strategies with each other for completing tasks on the iPod. The students reach for the devices most often during individual work, either as planned, such as in the timetable created at the start of the week, or spontaneously.

The iPods are also used for communicating via the Internet. The children have already taken their first steps with Web 2.0. Birthdays are exchanged within the class via the “Calendar” app, and dates relevant to the parents, such as parties, can be entered into an open Google calendar. The children occasionally write tweets on the Twitter Internet platform or write short blog entries.

The work phases with the iPods are of varying length; the students are largely free to determine the duration and frequency with which they use the devices on their own. Overall, the children use the iPods for at least half an hour to an hour per week.



Weekly education timetable: *According to Freinet, every child creates a (binding) timetable at the start of the week concerning the content she or he will study in the coming days.*

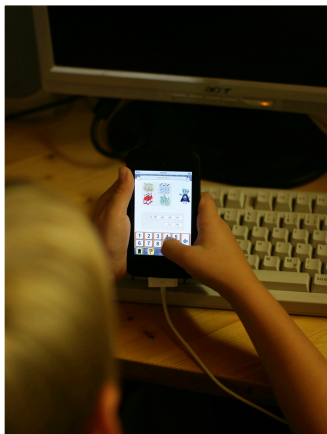
Web 2.0 *is a collective term for Internet applications that allow users to edit and create their own content without the need for special technical knowledge or difficult-to-use software.*

Blog: *A Weblog (comprised of the words World Wide Web and log, as in log book), generally abbreviated as 'blog', is a regularly updated website with chronologically ordered articles. A blog can reflect personal events in the form of a diary or offer articles on specific topics.*

Twitter: *With this form of micro-blogging, users write short messages ("tweets") similar to an SMS that can be made accessible to everyone or only specific persons. Tweets are ordered chronologically.*

Search engine: *An Internet search engine is a program that searches the Internet for entered search terms. The current market leader among Internet search engines is Google.*

iPods Enrich the Classroom



Supplement to PCs



Organisation and Responsibility



Concentration



Fast Information



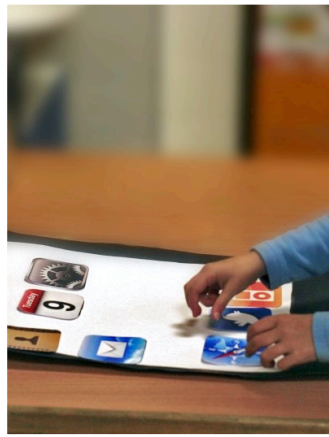
Motivated Learning



Communication



Technical Competence



Planning



Teamwork

Hardware

The devices used in the project, the iPod touch series, exhibit exceptionally simple operation via the touch-sensitive display. Thanks to the long battery life and the use of W-LAN, the iPods are also ideally suited for mobile work, including use of the Internet (e.g. during field trips).



Dimensions: (H x W x D): 110 x 61,8 x 8,5 inches

Weight: 115 g

Memory: Flash drive, 32 GB (max. storage: 7,000 songs or 40 hours of video)

Display: Multi-touch colour LCD, size: 3.5 inches, resolution: 320 x 480 pixels

Battery: Lithium-ion battery (max. battery life: 36 hours audio, 6 hours video)

Audio: Frequency response 20-20,000 Hz, speaker (supported audio formats: AAC, secure AAC, MP3, MP3 VBR, Audible, Apple Lossless, AIFF, WAV)

Radio support: Wi-Fi (802,11 b/g)

Package contents:

iPod touch
Earphones
USB-2.0 cable
Dock adapter
Cleaning cloth
Documentation

Conclusion

After just three semesters of using the iPods in the classroom, initial results are now available:

Organisation/technology:

The solutions for storing and charging the iPods have proven themselves, and even maintenance of the devices has been without problems. The time required for updating the software and testing new applications has proven greater than expected, and the assistance of parents has proven valuable here. Financial support from the parents was also required for establishing Internet access via W-LAN. Due to the costs of the iPods, the project would never have occurred without the support of the BMUKK.

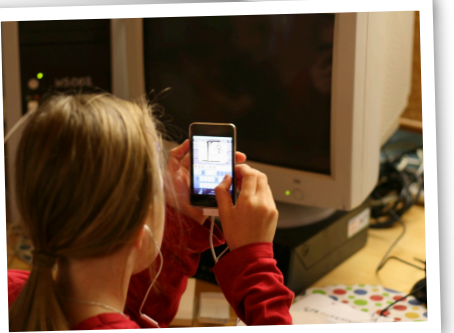
Teaching media competence:

The students quickly learned how to operate the iPods and the applications used. Their small size makes them well suited to the

hands of children. The intuitive operation is easy for the students to learn. Usage behaviour during free time shows that the children must be stimulated to use other programs as well; otherwise, they use the iPods primarily for playing.

Possibilities and limitations for the use of iPods in the classroom:

There are numerous programs and applications that run on iPods and can be used effectively in the classroom. Because the devices are quickly ready for use, without the long boot times typical of PCs, they are ideal for occasional, spontaneous use. The handy iPods can also be used outside of the classroom, such as during field trips. Due to the small screens, the devices are not suitable for composing long texts or for in-depth study of a topic. Peripheral

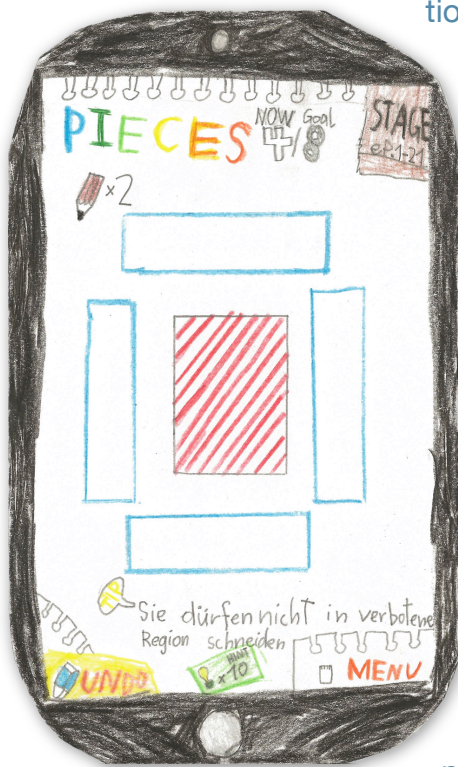


devices such as printers or PC projectors cannot be connected directly to the iPods; downloading of apps from the Internet also only works via the teacher's MacBook.

Didactic recommendations:

Observations during instruction so far indicate that the iPods have a positive effect on the motivation of the children.

The devices require a self-determined approach in which the students reach for the iPods on their own. The option for use of Web 2.0 influences the communication behaviour of the children. Since most parents work on PCs and use iPods only for playing music, if at all, they must be informed about the use of the devices in the classroom.



Commentaries

Children of the iPod class:



One day, Peter, our teacher, told us in the class council that we would all be getting iPods. Every kid! We received them in the 2nd class around January. We were sooo excited to get the iPods and we knew we were responsible for them. When we turned them on, we wanted to try out everything and could hardly stop playing with them. Every kid received their own iPod. Peter bought a safe to store them in. There are many games for the iPods that we like: Doodle Jump, Angry Birds and Slice it! are entertainment games, while Brain Genius and Crazy Machines are thinking games. We also learn from the Internet with Articles, find trees in the park and learn arithmetic with various programs. With podcasts, we can watch interesting videos. Over the summer, we were even allowed to bring the iPods home, and we took good care of them!

Enzo: I like Doodle Jump because it's funny to watch how the little man jumps. I like to learn with Wikipedia because there is so much to find there.

Clara: I like Angry Birds because it is funny to shoot birds through the air. I like to watch podcasts because there are interesting things to see.

Leo: I like Brain Genius because you learn something and it is funny. I like geocaching a lot because you find interesting treasures.

David Schmitzberger BEd., team teacher of the iPod project class:

As a team teacher providing by-the-hour assistance in the iPod class, I am primarily occupied with helping the class teacher in the sometimes time-consuming maintenance and updating of the handhelds.



Using the test device provided to me, I search for podcasts and especially applications for use in the classroom. I test these with the children, as far as I have time for this. Due to the current lack of teachers, there are weeks in which I am hardly assigned to this class. In the few hours I have with the children, I see them as being astonishingly focused and highly motivated in working with the iPods, as I had already observed during the course of my Bachelor's thesis at the University of Education. In this work, I described a contemporary application of the Freinet educational philosophy with new media and emphasised the iPod project as a positive example of the meaningful use of new media in primary education.

As second teacher in the class, I have the opportunity to address individual questions and wishes of the children or offer immediate help in event of problems. I would love to have more time to work with the team of teachers on further optimising the use of the iPods in the classroom.

Claudia Welsch
Mother, class parents representative,
project leadership for free-time use:



The first difficulty was getting the iPod packaging open. Once we had accomplished this, it became clear that we parents had no experience with touch screens and didn't know how to activate the devices.

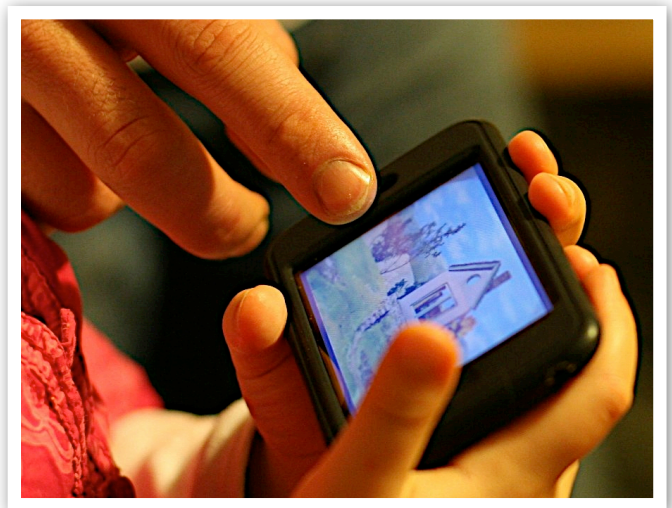
The next challenge was registering and synchronising the iPods. Peter had found software that made it possible to load the updates faster. Despite these aids, it still took three school mornings before all iPods were ready for use. The devices were unpacked, registered, loaded with software and labelled. The students showed themselves to be much more adept at working with the devices than we adults.

Next began the search for suitable apps. At the start of the project, it took some time to find apps and then also test and discuss them. We agreed to load a game onto the iPod so that the children could practice the interface ("touch and move") of this extremely exciting device.

In addition to purchased apps, English songs (Danny and Gerry – this duo performs school concerts) and Greek legends were loaded onto the iPod. We regularly sat together and looked through all the applications in the App Store, discussing them according to various

educational criteria and re-synchronising the iPods.

The students had the option of bringing the devices home during the summer holiday. It was therefore necessary to reload software and get all the iPods back to the same state when school started again. The natural way in which the children operate these devices never ceases to amaze us parents.



Outlook

The iPod project will be enriched in the coming semester by the purchase of new hardware, as well as the use of programs and applications that are new to the children. The experiences collected to date shall be communicated to parents and educators.



Hardware:

Three iPads financed by the BMUKK (and which have already been delivered) will supplement the iPods with their expanded possibilities. In contrast to the Windows PCs used before, the user interface corresponds that of the iPods. The iPads should be used primarily during group work, for viewing images and composing longer texts, as well as for applications that do not run on the iPods, such as drawing or presentation programs. It is also possible to connect printers and PC projectors to the iPads.

New applications:

The focus in programs and applications will be on using the Internet. The students shall learn how to search the WWW with Google and create a profile in Facebook. A mobile blog (“moblog”) shall be used for publishing small articles. One requirement for the com-

petent use of interactive applications on the WWW is intensified information about the dangers of Web 2.0.

Informing parents and educators:

Parents have already been included in the iPod project before, and now Web 2.0 will also be the focus here. Parents must learn about the possibilities and risks confronted by their children in using social networks such as Facebook. Teachers shall be familiarised with the iPod as a teaching aid and the value of Web 2.0 applications for classroom use must be studied in close cooperation with the University of Education in Vienna.

Cooperation with Apple:

After initial talks between Peter Sykora and members of the Education Department at Apple, presentation of the results of the iPod project to a wider audience of educators is planned at an education conference to be held in Vienna in 2011.



On the Web:

- <http://www.school4u.at/ipod>
- <http://facebook.com/parkschool>
- <http://twitter.com/ipodklasse>

Imprint:

Media owner, publisher and printer:
Ministry for Education, Arts and Culture,
Präs./IT

Content, images and layout:
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