

Why Technology in Physical Education?

A question asked frequently of physical educators is why they would bother introducing technology into their teaching. This often turns into an interesting discussion about what exactly is meant by 'technology', which is then typically followed up with concern over the replacement of physical activity by some sort of digital alternative. The first line of response is that technology is all around us; it involves every aspect of physical education, from the shoes the students wear to the sporting equipment used during the game. So are these arguments referring to digital technology? If so, digital technology does not seek to replace physical activity but instead aims to help explore it. Technology becomes like any other tool in the PE teacher's toolkit – useful for whenever the situation demands it but never just for the sake of it. All elite sports organisations take advantage of the latest technology to enhance performance. Physical education is essentially doing the same thing, albeit with students and in a much broader context. At times, doing something in a new way can be a little daunting and it can be far easier for teachers to instead pull out an old lesson plan and replicate it. Yet the need for schools and teachers to stay relevant to the world of their students is more important than ever. The wave of emerging technologies has dramatically altered the playing field; things that were not possible ten or even just five years ago are now possible for all. These present enormous potential for all teachers, not least physical educators – you need look no further than the explosion of mobile devices, such as smartphones, to realise the enormous advantages they provide in physical and health education. This is just the tip of the iceberg in the modern-day classroom.

There are exciting times ahead in the world of physical education, with teachers grappling with the influx of new tools and learning exactly how to fit them into their classes. With this being a common theme for teachers around Australia, we look at the experiences of three physical educators in different parts of the country. All are embarking on the same journey of including emerging technologies into their classes in a meaningful way. The important learning to take from the following experiences is the desire to improve best practices to ultimately improve student learning outcomes and engagement.

Brendan Jones, Erina High School

Brendan is currently head teacher of Personal Development, Health and Physical Education (PDHPE) at Erina High School on the NSW Central Coast. Since assuming the role, the opportunity to incorporate technology into his classes has increased tenfold. It also gives him the opportunity to steer his own course and have more influence over the way technology is used in his faculty. With the introduction of laptops into NSW year nine classes, there are powerful creation and analysis tools in the hands of his PE students. He has experimented with many tools, platforms and techniques to make what his students do

in the classroom have real applications. Brendan's initial interests lay in online classroom management platforms such as Moodle, so he became his school's Moodle administrator. Web 2.0 tools, including Xtranormal, Prezi, Animoto, Glogster and Pixton had, and still have, immediate application in the PDHPE classroom for Brendan. More recently, Quick Response (QR) codes and GPS technology have captured his attention; he is using GPS data loggers to track the progress of students during a game, for example, which he sees as producing useful data and a stimulating analysis of movement that really has not been possible before. He is also developing digital portfolios as a way to deploy tasks, to work in a paperless way, and have students compile their work. His most used tool? Twitter – which has allowed him to learn and share with PDHPE practitioners across the world.

Clarinda Brown, Cumberland High School

As head teacher of PDHPE and e-learning coordinator at Cumberland High School in Western Sydney, Clarinda is always finding different ways to alter the stereotype of 'bats and balls' in PDHPE, and believes that using technology to do this is exciting. She feels that PDHPE lends itself well to interactive activities in the digital classroom. Her current ICT focus within PDHPE involves three main tools:

1. iPod Touch: Sets of these units are proving extremely popular in the classroom. Clarinda has found many applications and functions that lend themselves to different topics, such as geocaching for orienteering activities and games that test reaction time. She believes, however, that putting the internet and cameras into hands is what really brings an incredible interactive element into the classroom, particularly in classes that do not have laptops.
2. Xbox Kinect: With this videogame peripheral, not only are you required to use your entire body as the controller but just one set-up can be effective for a whole class. For example, games such as Dance Central and Zumba Fitness are great for setting up a dance unit; you can calibrate the Kinect to one student, who then stands at the front of the class and acts as the lead dancer for everyone else. Everyone is fully involved in the activity, which can incorporate many different styles of dance
3. Edmodo: This is Cumberland's e-learning platform, which has only recently been introduced to staff and students. Each class has its own group and students are beginning to submit class work and homework tasks via Edmodo. Web 2.0 tools such as aMap and Jigsaw Planet embed beautifully, as does YouTube. Students are also able to produce work on sites such as Photopeach, Photovisi and Popplet, and then add their link to a post. This enables easy sharing in class and opportunities for peer review.

Luke Newell, Boort District School

Luke, a graduate teacher at Boort District School in Victoria, believes that physical education has never been more relevant in Australian society. He thinks that two things have changed dramatically over the past decade: firstly that the benefits of physical activity are better understood by young adults; and secondly that Generation Y is the pocket- and fingertip-knowledge generation. The question for him, therefore, should not be whether we need to fuse physical education with ICT – which he thinks should occur and sees as clearly happening already – but rather with the issues of how, when and with what that happens. Using videos with delayed feedback to allow students to critique cognitive volleyball skills; allowing students to utilise Comic Life to display knowledge of safe water environments; and using Quiz Creator to test students interactively on sports nutrition: these are just a few of the simple ideas that Luke uses to get students engaged with class activities whilst fundamentally increasing their knowledge. Further ideas in the pipeline include using

ask500.com to generate class discussion prior to assessment tasks; the use of GPS systems to track decision-making in the outdoor classroom; and employing smartphone apps as personal trainers. These mobile technologies could also be used easily in outdoor education, such as when students are at the snowfields or on an overnight hike.

Luke believes that this is an exciting time to enter the teaching profession, with the only clear and present danger facing him and his fellow graduates being the danger of falling off the IT map. For him, the link between ICT and physical education is not a question of 'if' but a question of 'how'.

What This Means for Educators

The combined experiences of the physical educators here makes one thing very clear: that it does not matter that we teach in different states with different curriculum models. The important thing to understand is that we are part of the same world and dealing with students who are shaped by it. The positive here is that we are starting to realise that we are in this together – and that the sharing and collaboration amongst teachers around the world today is nothing short of excellent. For proof of this, you need go no further than Twitter to stay in tune with an ever-growing mix of PE and health teachers who share their ideas, resources and expertise for free. So join the conversation: it is free and it will be the easiest, quickest and most powerful professional development you will ever go through.

Using Social Networking to Get Kids Healthy and Active

Let's face it PE teachers are heralded as being a truly adaptive bunch, able to make changes to lessons on the fly, innovate and to continually strive for the new within their classes. At the end of the day, this comes down to the dynamic nature of the Physical Education classroom which is constantly dishing out unexpected and unplanned situations each and

every lesson. Dealing with these changes is something that great teachers tend to do really well, however more often than not, these teachers are happen to be PE teachers, or those who teach within the increasingly unpredictable outdoors.

Although rapid change seems to be easily dealt with, how does one deal with slow and steady change? How do you modify your teaching practices to stay in tune with the wider world? And how do you make this happen without damaging the mantra PE teachers have created over many years?

Google Groups

Although a simple less threatening version of a social network and perfect for all ages. Teachers simply visit www.google.com/groups to create their very own private group. Group members are then invited by email and a unique email address is generated for the group. Whenever the teacher or students want to post and share any content with their group they simply send an email. In a Physical Education classroom a google group can be a fantastic way to share information such as scores, announcements or other interesting class related content. The very fact that it happens via email allows for anyone to develop a powerful social network. Teachers can take it a step further and invite an Olympic athlete or sports nutritionist to their group to answer student's questions and provide feedback. Many schools separated by the tyranny of distance can have virtual guest speakers who are usually more than happy to share their thoughts via a simple email.

Edmodo

Edmodo is the education equivalent of Facebook, allowing teachers to instantly create a personalized social network with their students. Once registered students can enter a unique class access code given to them by their teachers, which will then enable students to easily share resources with each other. Edmodo will handle all types of media from images, documents, videos and website URLs making it a fantastic place to develop a rich tapestry of discussion around health related concepts. The instant nature of the Edmodo social network also provides the possibility of creating a back channel within a health or physical Ed classroom. The basic premise of a back channel is similar to a chatroom allowing discussion of content to occur behind the scenes of the direct classroom teaching. This approach has been credited with providing quiet students with an opportunity to be the loudest in the classroom. It also enables every thought and idea to be captured by the teacher during their presentation of content enabling them to modify their teaching in response to the backchannel. An innovative teacher recently had students select a sport and use Edmodo to post the content they were able to find on their sport, such as the current world champions, rules, images etc. essentially creating a virtual information booklet which could then be used to prompt teachable moments on the sports they were playing in the practical sessions.

Facebook

Facebook and the classroom are two words you generally don't hear side-by-side. However, an increasing amount of schools are tapping into the communication powers of the world's largest social network. At present there are well over 750 million users within the global community. Although it cops it's fair share of criticism for productivity loss, studies have actually highlighted that this is not the case. With this in mind and the fact that Facebook

breaks the boundaries of traditional communication channels, there is no doubt why classes utilising Facebook as an additional means of communication are experiencing vast levels of success.

The 24/7 classroom scares a lot of teachers, whom already work hard enough. However there are many benefits to a classroom that has no time related boundaries. Such things include the capacity to share current affairs related to subject and spark conversation on class content.

Subject home page - Creating a subject or school home page for senior students by setting up a Facebook page is simple and 100% free. The best thing about using this method is that there are no ties at all to the person who creates. This is fantastic for teachers with a personal page as it keeps their identities a secret and avoids the need to 'friend' students. Giving the benefits but ensuring anonymity. Students simply 'like' the page in order to begin following its content. Alternatively teachers can create a similar more private Facebook group, which ensures that users need to be invited. An innovative school recently established a closed Facebook group to communicate school related information to the wider community, almost like a modern day newsletter. This proved to be a very successful exercise and helped the school model appropriate use of social networking.

Current affairs - Health and Physical Education teachers can post up to date content from news sites and other sources relevant to their topics. As these are posted they appear within student's timelines providing a rich focal point for discussion. The teacher can then set related that encourage students to investigate and share interesting matters, ultimately creating a network of simple informal learning in an environment that students are comfortable with. The added bonus of restricting access to the class page means that you can operate within controlled environment.

Twitter

A recent addition to the social networking world is twitter. The basic idea behind the popular platform is the sharing of information in a maximum of 140 characters. Without an intended focus twitter becomes like any form of free speech in that the majority of what is spoken about is complete nonsense. However give students or teachers a focus an twitter becomes an enormous environment for learning and sharing. With the click of a button teachers can connect with those from all over the world, who are willing to share their lessons and ideas. The recent influx of technology in schools has brought about a growth in the number of PE teachers all of which are vying for the latest resources and innovative tools. PE teachers wishing to use twitter to improve professional practice should look no further than the #pegeeks. By simply adding this to any of their tweets they will be broadcasting to hundreds of likeminded PE and Health teachers interested in helping them out. Thanks to social networks like twitter we no longer need to be reinventing the wheel. A superb list of PE teachers on twitter has been created at the <https://twitter.com/#!/benpaddlejones/pe-geeks>

In the PE/Health classroom twitter can be used to help explore current world issues. For example during the bird flu epidemic students at Boort District School were able to follow and interact with those who were directly affected by the flu. This involved asking questions of those willing to share, whilst plotting their location on a www.scribblemaps.com map. To

allow this to happen students simply went to www.twitter.com/search and specified the terms bird flu. The thousands of tweets that followed provided a rich environment to develop an insight into the effect of disease.

Twitter in a practical class is something that only some schools have begun to introduce. This included injured students tweeting the results and key moments of games in the classroom, creating a brilliant micro blog snapshot of the years learning. Things that were tweeted included the team scores, pictures, key events and other class related information. Teachers could take it a step further and introduce a media relations role into the SEPEP model that involved tweeting and updating other social media. This could be a brilliant use of the technology as it would actually mirror what the sports media are presently doing during professional matches. Imagine year 7 students making real world connections and gaining followers from the other side of the world. Teachers interested in doing this can start by setting up a class twitter account and giving students access to this via a school iPod, iPad or other mobile device. Students could also utilise twitter to breakdown key components of sports skills in less than 140 characters and share this with the world.

YouTube

One of the largest social networking communities is in fact YouTube with over 490 million registered users. Most of whom utilise YouTube to post video blogs ranging from home cooking shows to the latest tech reviews. The key ingredient being that anyone with a video camera and an Internet connection can broadcast their message to the world. So how could PE teachers utilize this power for enhancing student learning?

Film Crews - after introducing a pocket video camera to the classroom, students can take up the role of "film crew" once on a week by week rotation basis. Their task is to capture the moments that make up a practical lesson. This might include anything from skill training to game play and tactical instruction etc. They could then be involved in the editing and distribution of the class video via YouTube. With a little guidance from the classroom teachers the film crew would essentially be completing a scaled up modernised version of the peer assessment. Once the content is online students could easily comment and review their own and others technique, creating what would essentially be an online portfolio demonstrating then learning of new skills.

Video coaching - with the same pocket cameras students could contribute to the wider world by teaching a game or skill via video to another person. The best thing about doing this via a video or sharing site such as YouTube is that the other person doesn't have to be in the same room to the experience coaching. Great teachers the world over have long since paired up with schools in other countries to share lesson content and cultural activities. With sport playing a major role in all cultures it makes sense to teach it to a worldwide audience using social networking. Imagine the higher order thinking and physical skill development on show when a year 7 in regional Victoria teaches a group of students from India how to kick an Australian Rules football via a 1 minute YouTube video. All it takes is a video camera and an Internet connection. The connections students can make are endless.

Demonstrations - with the absolute plethora of YouTube videos being added every minute, it truly has become an amazing source of content for PE teachers. Many are using it to access sports instruction videos and showing these to students via mobile devices like the iPad,

essentially creating a second teacher within the classroom. This ultimately frees up the teacher to provide assistance to students which ultimately further enhances their skill development and learning. Social networking has the potential to become worldwide social learning, if the task is designed in a meaningful way. At the end of the day social networking isn't going away, this is reality. Schools that fight it will increasingly find it more and more difficult to engage apathetic learners. Besides this, schools have an obligation to be a part of the process. In the same way learner drivers are guided through road rules before being unleashed onto the roads. Students should be guided through the roads of the Internet world, which today includes social networking. To put it simply, schools that ban or restrict access are doing no favours to their students, they are simply alienating them from a world in which they need our support.

With all this said the last thing anyone wants to see are the children of tomorrow scared to engage in outdoor disconnected activity. To avoid this social networking should be viewed like any other tool in the classroom, useful for when the activity can be enhanced by its use, never just for the sake of it. With careful planning and a focus on ensuring we don't lose active time, schools can truly enhance their physical activity message by sharing it with a genuine worldwide audience. Smart students, smart teachers and smart schools are already tapping into the power of social learning tools. It's time to think of them not only as toys, but as tools that truly have the power to give every child a front row seat in the worlds classroom.

Measuring Fitness and Physical Activity

Measuring performance in physical activity is a practice that has evolved over many years. My earliest memories in physical education classes include completing tests to determine my overall fitness and my ability to successfully complete a sporting skill. Back then observations were usually made by the teacher and then often compared with standardised norms. The ways in which we can measure physical activity have changed dramatically since then.

Diary

Although not entirely new, the diary or observational log still remains one of the most effective ways to measure physical activity. The reason these have always been effective is that they rely on students recording their own thoughts and feelings about how active they

have been. In the past, this information would have been recorded using pen and paper; however, today teachers can easily setup a free wiki website at www.wetpaint.com in a few seconds. A wiki website allows for more interaction than its paper based alternative. A wiki website allows users to change the content of the webpage by simply pressing the 'edit' button and entering their desired information. Once the update has been made they simply press 'save' and the content is available to everyone who accesses the page. In a recent competition amongst schools from several towns, students were responsible for recording their participation in physical activity on a wiki website. Students set up their own pages, which included a grid for entering the information on a day-by-day basis. This information was then tallied up to determine which the most active school was. Students then used this information to assess the gaps in their life that could be filled with physical activity.

Audio Diary

An audio diary is a great alternative to a written diary and very easy to facilitate. Have your students use the recorder on their mobile phone or mp3 player to record their thoughts, feelings and perceived level of intensity during physical activity. This information can then be easily reviewed to suggest training that may need to be introduced. Have your students complete this immediately after activity to get a real feel of the intensity at which they were working, and their thoughts on areas for improvement.

Fitness Tests

Remember the beep test? We have probably all done it at some stage, however, maybe not like this. Simply download the beep test application onto your iPhone or iPod, put your headphones in and begin the test. You can also use this method to complete the new age yo-yo test, which will not only give you prompts and audio cues through your headphones, but it will present you with your results upon completion. This can then be saved and used as a way to compare your improvements over time.

Tools for the NPA Guidelines

In recent years, Australia has adopted the National Physical Activity Guidelines, which dictate the amount and intensity of physical activity we should complete each day. The following tools can be used to assess if students are meeting these requirements, and also to teach students about ways in which this information can be gathered.

Pedometer

Pedometers are inexpensive pieces of technology, which can be attached to a waistband or belt to record the number of steps taken during a day. Although they do not assess the intensity of activity, they provide us with valuable information and insight into improvements that can be made to become more active. It takes nothing more than a free application on an iPod or iPhone to create your very own pedometer today. Simply place your phone in your pocket and you can begin to explore and analyse your step count in much more detail. This is a fantastic opportunity for students studying the 10,000 steps program, or students studying the ways in which physical activity can be assessed. For further analysis, use the pedometer app on different faculty members at the school and compare the results.

Heart Rate Monitors

Today's heart rate monitors are cheap and allow for analysis of the heart rate in varying intensities. This data can provide students with valuable insights into many areas of physiology, from energy systems to training requirements. Put heart rate monitors on students who are about to commence a game of netball. Instruct students sitting on the side line to monitor the heart rates of the players at different intervals, and make the data available after the game. Use this data to encourage a discussion afterwards about how player positions can affect the heart rate. You can also use the Instant Heart Rate app to check your heart rate wherever you are.

This incredible app has users place their fingers over the lenses of the inbuilt camera. The application then tracks the change in the colour of the blood in the fingertip and uses this to

calculate heart rate to an amazing level of accuracy. The app can be downloaded from www.instantheartate.com

GPS

Global positioning systems (GPS) allow intense measurement of physical activity across a variety of areas. Today's GPS units are small and highly affordable, allowing students to wear them during their sporting endeavours. A great entry-level option for schools is the MainNav MG-600 available at www.cellbikes.com.au. This unit allows users to track speed, distance, elevation, time and GPS co-ordinates and overlay this information on a Google Map so that students can visually monitor aspects of performance.

In a classroom activity, use this to record student effort in the Coopers Twelve-Minute Run, and encourage students to improve their aerobic capacity. To take it a step further, purchase a Garmin Forerunner, which combines the GPS with a heart rate monitor providing more analysis of performance. The device allows you to review an aspect of your training to see how changes to intensity and speed affected your heart rate. It is incredible training companions that can help students explore the many adaptations the body makes to improve its efficiency during physical activity.

Accelerometer

An accelerometer is a very accurate tool for measuring the intensity of physical activity, especially in the young or elderly. However, for far too long they have only been used at university level, given the expenses involved – until now. The Nintendo Wii is a revolutionary device that allows the user to mimic real life actions and have this translated into game movement. This is made possible by the technology used inside the Wiimote, which you guessed it, is an accelerometer. To make this possible you will need a laptop with Bluetooth connectivity and the free software, g-force analyser. Simply follow the steps in the video at <http://bit.ly/dMQygm> and you will be able to accurately replicate the features of a triaxial accelerometer. Once you have the setup organised, you can strap it to a student's chest while he or she is playing sport to determine how much time is spent in each level of intensity. This information can then be used to design training programs that replicate these features. You can also place it on a student's back as he or she completes push-ups, and direct the student's attention to the software running on the laptop. By using this method you will be able to directly identify the moment that the subject begins to tire. This information can then be used to discuss energy systems and training methods.

Video Analysis

Video analysis has long been a powerful tool for exploring movement but it used to come with an expensive price tag that made it hard for all schools to utilise. Now, you can purchase the incredible Timewarp 4.0 software for a one-off small fee at www.siliconcoach.com/education/timewarp/. The software allows student movement to be immediately reviewed after it has been performed. Simply connect a digital camera to the laptop running the software and you can complete powerful replay functions. Encourage students to use a checklist to assess their competencies over a variety of skills. After they have completed an action, allow them to use the software to view their replay. This information can then be used to determine which aspects of their technique were in need of improvement. By using this method, students will be able to accurately measure their skill level. Thanks to the developments in emerging technologies, it is now possible to assess multiple areas of physical activity quickly and easily. This allows those being measured the ability to improve their overall fitness, and it also allows those completing the measurements the ability to develop their understanding of the aspects that improve fitness. So get measuring and help your students understand the 'why' behind their need to be physically active.

Collecting Data from the Field

Some of my fondest memories of my school years involve participating in a range of activities in the great outdoors, and I have no doubt that these opportunities provided me with the skills and attitude that was necessary to pursue a healthy and active lifestyle. It is also true that the opportunities that outdoor environments present for learning are enormous; however, one of the biggest challenges is always how to capture that learning upon returning to the classroom. Today's highly portable and accessible mobile devices provide us with enormous capacity to record our experiences in ways that significantly enhance the learning process, and some of the tools, many of which are usually reserved for elite sport and experts, are beginning to appear in classrooms around the country, proving once again that emerging technology truly makes the once impossible, possible.

Reporting Live

Using a single smartphone and an app such as Qik, students can form their very own film crew that is able to report live from anywhere that has phone reception. This gives students the opportunity to stand on a beach on the Great Ocean Road and present live to an audience of their peers who are back at school, or even to students on the other side of the world. Once the free app is installed, it allows students to shoot video with a live stream that is being added instantly to a unique web address. Users log on and interact with those doing the filming. My school used this recently to do some spontaneous reporting about the carbon cycle that a group of students was learning about while visiting a local national park. The video footage was streamed live to a junior science class that was studying the material, which created a rich media experience for both classes involved.

Mobile Phonecasting

One of my earliest projects that got me interested in mobile learning occurred while on a field trip to the Grampians National Park. It involved year 11 students participating in a hike through some truly spectacular landscapes, and the tricky part during the trip was figuring out how to capture the wonder of the outdoors for return to the classroom. However, this was made all the more easier thanks to mobile phonecasting. To put it simply, phonecasting involves students ringing a local phone number and leaving a voice message. Once they hang up, the message is saved and made available at a nominated online space, effectively leaving a trail of recordings of student experiences. As students return to the classroom, they can listen to their recordings, which then helps them to visualise and explore the theoretical concepts behind the field trip. For example, have a look at the Boort District School phonecasting journey at www.vceoes.wordpress.com. Perhaps an even easier phonecasting solution exists with iPadio.com, which allows users to broadcast live to the web from any phone, giving teachers in all subjects the potential to document data from the field. Imagine a PE teacher having student's phonecast their responses to theoretical concepts such as biomechanics, physiology and so on; this not only allows sharing by the very nature of recording, but students are also forced to consider and understand the concepts in a much deeper way.

Gathering Responses

Another exciting way to encourage a deeper connection between experiences in the outdoors and learning in the classroom is to utilise the free service at

www.polleverywhere.com. The service lets you create polls that can be responded to via a computer connected to the internet and also a cell phone. After signing up for a free account, you can choose to create a 'free text poll', which basically lets you send in text via SMS to a unique phone number once you create the poll. The responses are then updated in real time and displayed in a PowerPoint slideshow or on the www.polleverywhere.com website.

Using the 'free text' option you can then ask students questions that require them to respond via SMS. Students simply submit their answers by sending a text message to the unique number. This service can also be used as a back channel during trips away from campus that students can use if they want to ask a question when they return to school later. This encourages students to think about the information they came across during the excursion, and the benefits of using this method with a large classroom is that it automatically collates student responses in a way that can then be shared and discussed easily in lessons in the classroom.

Data Collection

One of the requirements of the senior physical education course involves students gathering data during a major game. This data is then used to assist the development of a training program; however, in the past collating detailed information during these activities was very difficult and often considered to be out of the realm of possibility for students. With the advent of multiple technologies, many students can now explore and record activities with increased efficiency, simplicity and reliability. Below is how students from Boort District School gathered multiple data sets while they were in the field.

Two video cameras, mounted on tripods and recording in high-definition, were capturing the movement of two players. The camera followed these players for the duration of the entire game, which allowed students to explore in detail exactly what happens to each player. In this instance, one of the players was playing in the centre position and the other was playing goal attack. One of the video cameras was also connected to a laptop running the TimeWarp software from Siliconcoach, allowing for live tagging of important tactical events. One student was also wearing one of the incredible SPI Pro units (available from the Australian based company GPSports), which allows for intense analysis of multiple variables related to physical activity. The unit, which fits snugly within a specially designed sports singlet, allows for recording during competitive game play. The inbuilt GPS tracks player movement and matches this data to the player's heart rate across the duration of the game.

The data includes workloads, speed and distance, and can be viewed after the performance or transmitted up to 200m live to a laptop, allowing for an enormous array of teaching to happen around movement. The data can then be broken down and analysed after the activity to inform training and game preparation. In this instance, after the activity students utilised the video recording to complete a skills frequency table using the very simple EasyTag application for the iPod and iPhone, which allows for quick and efficient statistical recording. Students simply hit the key associated with a particular action to record all sorts of useful statistics. The students also used the video recording to determine a 'work to rest' ratio using the TimeMotion app, which allows for analysis of movement data against time. Users simply tap the type of movement observable in the game, such as walking, jogging or sprinting, and this is then converted into a percentage of overall game play. The use of this data is then quite varied, allowing the teaching of concepts such as energy system interplay and fatigue.

Data Collection into the Future

If you wanted any further proof of the impact of Moore's law, then you need look no further than the possibilities that exist today in regards to data collection. Moore's law basically states that every two years, computer power doubles and price points halve, which essentially works to bridge the gap between accessibility and capacity.

As a result, it is without a doubt that data collection methods that were once reserved only for the elite have become readily available in the classroom. As Moore's law is expected to continue into the future, this capacity to gather useful information while in the field will also continue to grow, opening up a new world of uses that ultimately enhances the learning process of our students. No longer does learning need to happen in either an outdoor or indoor setting; it can happen across both settings thanks to the modern data collection tools that allow you to bring the power of the outdoors inside the classroom. With outdoor experiences being pivotal to the development of young adults, their place in the curriculum is well cemented. So let's try to utilise and record these opportunities as much as we can.

Reclaiming Physical Activity Time

One of the biggest problems in teaching physical education lies in the fact that practical activity becomes increasingly difficult to complete given the immense theoretical requirements of most curriculums. Part of the reason is the pressure to ensure that all students understand the content in the lead-up to the traditional exam. As we know, students take their understanding to the next level when they have the chance to apply it to a real-world, practical setting. Therein remains our problem.

So how exactly do we go about changing the mode of content delivery, and our lessons, to reclaim physical activity time whilst ensuring we cover the examinable material?

The Khan Academy

For those of you unfamiliar with the Khan Academy, it is basically an online school consisting of thousands of high-quality YouTube videos covering popular subject areas such as maths, biology, physics and so on. The website aims to provide a high quality education to anyone, anywhere. This method of delivery could easily be applied to physical education classes to solve the problem mentioned above.

This idea relates well to a new-age paradigm of teaching called 'flipping the classroom'. The basic idea is that teachers 'flip' their instruction by utilising technology to develop pre-classroom lectures and then utilise the time in the classroom to build on and develop understanding through more practical hands-on activities. This idea will remind many of the times they feel that they are wasting valuable class time teaching content that could be easily be taught at another time using technology. Taking on this approach in the PE classroom also gives teachers more opportunity to engage in practical activities while saving the theoretical content for homework. So what sorts of technology and tools could be utilised to help 'flip' your instruction?

Podcasts

Utilise free voice-recording software such as Audacity to record yourself teaching an aspect of your curriculum. Bundle it together on a USB or MP3 player and have your students listen to these for revision or as an introduction to a new area of study. Take it to the next level and make your lessons available online by using a free podcast hosting website such as www.podomatic.com This service also makes your podcasts available on iTunes if you so desire.

Vodcasts

If you are interested in taking podcasts to the next level, you can easily produce a video version known as a vodcast. Utilise your video camera or webcam to record you explaining a concept or instructions for an activity. You can then share these with your students via a USB or place them on your school's intranet. Take it a step further and upload your lesson videos to video-hosting websites such as www.vimeo.com or YouTube and give your students the ability to pause, rewind and fast forward your teaching.

Slidecasts

This is, by far, one of the most engaging ways to produce content for your students. A slidecast is usually considered a recording of a slideshow but it can also be a recording of your screen. By using a free website such as www.screenr.com, you can record the movement of your mouse and what is on your screen while you narrate. This gives you the capacity to teach content from PowerPoint or other forms and make it available automatically online for your students. The best aspect of this online tool is that you are limited to a total of five minutes' worth of recording for each video, allowing you to be succinct and straight to the point with your teaching.

Ustream.tv

Use this innovative video-broadcasting website to teach content to your students. With a webcam and a microphone you can create your own 'show', which can then be accessed live via the internet and a custom URL that you share with your audience. As all the live events are recorded, it is possible for your shows to be watched over and over again, allowing your students to review and revise material as often as they like.

Tinychat.com

This free web service allows you to start up a private video chat room. This room can then be shared via email or URL with your students to allow for online learning to occur. This service can be used to introduce a new theoretical concept in as few as 15 minutes. The students can then follow on with a standard homework activity that further introduces the concept before they return to school and participate in a practical activity to deepen their understanding. Prior to the 'flipped' approach, this opportunity for activity would not have been possible as the valuable time would have been used for static teaching.

Wikispaces.com

After producing your recorded lectures, handouts and other digital content, you will want a place to post them so that your students can access them whenever they desire. The last thing you want is

your students needing to visit a number of different websites so that they can begin their lesson. This is where a Wiki shows its true powers. By setting up a free Wiki website (www.wikispaces.com), you can easily edit and add content as often as you like, making it a breeze to place your content online and keep your students up to date. The 'flipped' approach reclaims physical activity time in a number of ways. Firstly, students have access to lessons outside of school hours and they still have the scheduled class time, resulting in an increase in time spent studying the subject. This, however, will not increase the subject workload as students are already completing homework in their own time. The benefit here is that this new-style homework will now be teacher-assisted, resulting in an improved understanding. Secondly, students today are heavily engaged in mobile technologies, making it possible for them to complete the tutorial side of the class in what was once wasted time, such as travelling or waiting for a bus. The 'flipped' approach assumes automatically that your students will be motivated to complete the pre-classroom session. However, there is a tendency to expect more from students within the current model in which teaching and homework are the wrong way around.

Traditionally teachers would teach content during class time and then have students complete some follow-up or extension activities in their own time. The problem with this approach is that often students find these tasks difficult without teacher assistance. This simply would not happen utilising the 'flipped' approach, as the content section would occur outside of class time, with the extended activities happening during school time when the teacher is available. In a 'flipped' PE classroom, students not only develop a deeper understanding of the curriculum but they also get the opportunity to reclaim their activity time.

Physical Education & Technology?

ICT and Physical Education have never really been seen as one, however I have always been keen to blend them together. The main reason for my motivation was that as a Physical Education & Outdoor Education teacher I had always been disappointed with the professional development I had received around the use of Information and Communications Technology (ICT) within my classroom. I found this to be a common ingredient when discussing training sessions with fellow PE teachers. While I support the provision of professional development within the area, it was never promising to complete a session ran by a highly experienced user of ICT who had no knowledge of how it could be used within a PE classrooms.

With this in mind, I set out to prepare a presentation that would hopefully offer practical advice on how to utilise a variety of emerging technologies.

- 1) **Flip Video Camera** – The first and most essential tool for a Physical Education teacher. No other camera is as simple to record video footage, making it a snap to film and analyse sporting techniques and game play.
- 2) **MP3 Player/Recorder** – With the abundance of MP3 players today you can be sure to be able to buy an excellent player full of features for a small price. For as little as \$20 you can purchase a player with the ability to play and record mp3 files and connect to the radio. One of the ways I utilised it within my classroom has been to create podcasts or recordings of my own teaching that can be loaded onto the MP3 player for review at a later stage. This also allowed us to complete theoretical course content during a casual walk or ride around the lake. This really assisted the kinaesthetic learners who enjoyed the ability to move while they learned. Buy a class set of 10 and rotate them through the group.
- 3) **Mobile Phones** – Regardless of people's perceptions of mobile phones being timewasters, they are without a doubt the single most must-have item of today and why shouldn't they be? Today's mobiles are like the Swiss army knives of the 1800's, with every modern piece of equipment you could ever need. It is now impossible to find a phone that is simply "just a phone".
 - a. **Calendar** – Have your students use the phone's calendar as a diary for recording important dates and information. Never again will you hear the excuse that they didn't realise an assessment was due.

- b. **Clock/Stopwatch** – Use the inbuilt stopwatch and alarm to help organise and time training sessions. In this example, students move from passive participants within a session to the role of trainers, as they are forced to organise the session.
 - c. **SMS** – Use this feature and a service such as www.smsexpress.com.au to send bulk messages to more than one phone from your laptop. Easily allows for instant communication with a large group or class. Makes late-minute changes to the sports draw of outdoor education camp easy to communicate. Use it as an alternative to paper and pen during a sports session or camp and have students answer questions based on their participation.
 - d. **Camera/Video Camera** – Use them within all practical sessions as a way to film and analyse performance instantly. Most phones even come with video editing software, that allows students to edit their own footage.
- 4) **TubeChop.com** – With the absolute plethora of videos on YouTube, it is a must for Physical Education teachers. The great thing about TubeChop is that it allows teachers to select a certain section from a YouTube video and share only that section. Great way to filter the nonsense on YouTube.
 - 5) **YouTube.com or Vimeo.com** – Have your students teach a sport or physical skill and film it with a Flip Video camera for uploading to YouTube. Sit back and watch as people from around the world watch and comment on the video.
 - 6) **Google Docs** – Spreadsheet – Share a Google Docs spreadsheet to all your students, with simple formulas to work out and graph averages. Have each member of your class have a copy of the spreadsheet loaded on their computer screen. Complete a step test, and record heart rates pre, post and every minute after, for 5 minutes. Results are collated instantly from all computers within the room and displayed in one graph. This gives students a way to visualise their changes in heart rate activity in comparison with their peers. (Instructions here <http://mrrobbo.wordpress.com/2009/05/23/watching-my-classes-heart-beat/>)
 - 7) **Skype** – Without a doubt, my number one tool within a Physical Education classroom. Use Skype to make free phone and video calls to other Skype members all around the world. Connect your students to the textbook author in order to engage in a face-to-face chat worlds apart. How about having your students teach a game to another group of students from across the world? All it takes is an internet connection and a webcam and you can be linked up in no time. My students have recently used Skype to interview a sports nutritionist within the Australian Institute of Sport, who talked about the foods Australian Athletes would be eating in the lead-up to a major competition.
 - 8) **Posterous.com** – Simplest way to make an online digital portfolio of your sporting performance that can be reviewed and analysed over time. Simply film or record the desired skill and send the video file within an email to post@posterous.com. This will turn your email into its very own unique website where the video can be watched online. Have a new video or document you

would like to include? Simply send a new email to post@posterous.com. By far the easiest, no fuss way to put anything you like online.

- 9) **Nintendo Wii** – With the influx of video games now requiring physical movement to play, why not introduce them into the curriculum. Have your students wear heart rate monitors while participating within a simulation sport game on the Nintendo Wii, then compare and contrast this to the “real” sport for excellent discussion about how intensity affects heart rate.
- 10) **Nintendo Wii Remote Control** – Attach a single Nintendo Wii remote control to your computer via Bluetooth (Instructions here <http://tinyurl.com/csslwy>). This will allow you to utilise the inbuilt accelerometer within the control in order to track the movements and forces applied to the control as it is manipulated in space. Take it one step further and place it inside a dodge ball to record the forces applied to a throw within a game. All forces are displayed in a real time graph on your laptop for on-the-fly analysis. These graphs can then be utilised to prompt excellent discussion about acceleration around an axis.
- 11) **iPod Nike Sensor** – Have students bring their iPods to class or buy a class set. Students then attach a Nike Sensor to their shoe which communicates and records their physical activity. Student’s records are then sent to their own website, where they can view and track their training progress and compete against others from all over the world.
- 12) **Geocaching** – [Geocaching](http://www.geocaching.com) is the free high-tech treasure hunt where you use your [GPS receiver](#) to find [caches hidden](#) by other players. It's a great way to be outdoors, enjoy the environment and the revel in the thrill of the hunt! Simply logon to www.geocaching.com and search for a cache within your area (you’re bound to find hundreds) and begin your hunt with the GPS. The hidden cache may require more smarts than meets the eye and reward you with a special prize, it really depends on the cache. Why not have your students make a virtual tour of their town as a series of hidden geocaches.
- 13) **iPhone** –
 - a. **RunKeeper** – Have your school purchase an iPhone and utilise the free application called RunKeeper, which keeps track of your physical activity via the GPS. Simply return to your computer to view the path/average distance/speed/elevation and calories exerted throughout the journey.
 - b. **100 Pushups** – Have your iPhone work as a coach to motivate and work you towards a training goal of 100 pushups. The application adjusts its training depending on how you feel and the results you achieve.

All of the tools and activities above have been utilised within my classes and I can say that they have been greeted with an enthusiasm unlike any I have experienced within my career. Students have leapt at the opportunities to utilise the technologies they use in their personal lives within the classroom. My recommendation would be to trial one or two of

the ideas within your school and see for yourself how technology and sport can be used hand in hand.

If you need any information, feel free to drop by my personal blog where I discuss the many applications of technology within a Physical Education classroom. You can find it at www.mrrobbo.wordpress.com

Video Games in Physical Education

It was Christmas morning in 1992 and my brother and I were busily unwrapping our presents. We got to the last one and to our surprise we opened it to see a Nintendo. Initially we had no idea what this device did, but it wasn't long before we were the most popular kids on the block with our friends. Flash forward to today and I notice that students still shared the same excitement over video games as I did during my younger days. With this in mind, I decided I would be foolish to not at least consider the possibilities of integrating video games into my classroom.

The first thing I considered where the types of video game systems that were available. This led me to try:

Dance Dance Revolution for Playstation 2 – I initially tried this with a small group of year 7 students from my Physical Education class at lunchtime. The idea of the game is simple, players stand on a dance platform or mat and hit colour arrows laid out in a cross with their feet to musical and visual cues. Players are judged by how well they time their dance to the patterns presented to them. Overall the game is extremely difficult to master and helped develop complex movement patterns within the group of students in a relatively short time. Not only were students working hard physically to complete the dances but they were also required to work mentally to decipher the visual information at a rapid pace. The positives of improvements within this game also seemed to extend beyond the game itself, with students showing improvements within our practical classes. The Dance Dance Revolution game has now found its way onto the Nintendo Wii and can be purchased at most retail game stores.

During 2009, I was lucky enough to receive funding from the Knowledge Bank – Next Generation program to trial the use of video games within a Physical Education classroom.

With the funding I purchased two Nintendo Wii consoles and the game Wii fit. Basically, it is an exercise game consisting of activities using a balance board peripheral. The balance board allows players to have their entire bodies' movements interpreted and used as the basis for control within the game. This means that players physically move their entire bodies to control the onscreen characters in a variety of activities such as yoga, skiing, running and muscle strengthening. At Boort Secondary College our junior classes have approximately two periods of theory and two periods of practice a week. The aim of the program that I developed and introduced was to make the theoretical time much more practical by employing the game "Wii fit" to teach a variety of theoretical concepts. The program was revolved around VELS level 5 from the Health and Physical Education Domain, which focused on teaching students to "explore views about fitness and suggest what fitness might mean to various groups in society". It also focused on them "developing their understanding of the physical, mental, social and emotional benefits of participation in physical activity". With this learning focus in mind, I set out to develop the "How Fit Are Wii" program.

How Fit Are Wii – Using a Wiki website at <http://howfitarewii.wetpaint.com>, students began to record their physical activity within an online exercise journal. The journal would include exercise completed both within our practical classes and within the Nintendo Wii game. Each week, students would complete a new worksheet or activity while they were playing the game. This worksheet would then focus their learning for the remainder of the week. As a result of this, students would engage in great discussion and analysis of each of the Wii fit games.

With exercise intensity being a major focus with the National Physical Activity Guidelines, I set out to teach this concept within the games. Students began to compare their actual physical activity with the simulated versions to determine whether or not the Wii fit is an accurate simulation of the sport. This would then help us to determine whether or not playing the video game would be enough to fulfil the National Physical Activity Guidelines of 1 hour of moderate physical activity a day. As you can imagine, this debate type format where students were actively involved in collecting information and data from their own activity became a rich learning experience. One of the most accurate ways to determine this was through utilising heart rate monitors. Within one of the activities, students were required to play the tennis Wii sports mini game, while wearing a heart rate monitor. They then recorded their results and compared them with an actual game of tennis during our practical session for the week. Students were then able to determine that the video game simulation was nowhere near enough to meet the guidelines. The students then began to compare and contrast the rest of the mini games that we could replicate in real life, with excellent discussion resulting around how intensity affects heart rate. As a culmination of the program, students then filmed their own videos demonstrating the knowledge they had all gained throughout the program. Within this video students had to develop their own version of a game simulation that met the requirements of the National Physical Activity Guidelines. Feel free to download the worksheets and view the lessons from the How Fit Are Wii website at <http://howfitarewii.wetpaint.com>.

Mario & Sonic at the Olympics – The next game I utilised within a theoretical class was the game Mario and Sonic at the Olympics on the Nintendo Wii. The game allows players to assume the role of Olympians and compete within a variety of Olympic sports. Players use

the Wii remote to mimic the actions performed in real life sports such as swimming and table tennis. Within the game there is quite an emphasis on replicating the real life sports accurately, getting some major features of the sports correct, such as the angle of release and speed. With this in mind, I set out to explore some of these concepts within my VCE Physical Education Class.

The first activity we did during a theoretical lesson was to teach the types of skill classifications. Students had to move through the games and classify the sports into the types of skills that were evident. By using the Nintendo Wii game as a stimulus, students got to explore and discuss sports that they would rarely be exposed to, such as trampolining. It also allowed us to move through and classify 24 examples in about 30 minutes. Later on in the semester we used it again within the same class to teach some basic biomechanics concepts. In the first lesson, students learnt about how angle and speed of release affect the overall distance of a thrown object. In order to do this, students played the simulation versions of discus and shot put and recorded the distance they were able to throw after modifying the angle and speed of release. Although it was only a 15-minute activity, it firmly cemented the idea of concept within their understanding and this was then applied to a practical real-life experiment in the second lesson.

One other use I have found for the Nintendo Wii has been within the controller itself. As you will be aware, the Wii mote controller contains a series of highly powerful accelerometers, which basically allow the unit to sense the movements that you apply to it. So with the help of a few programs and a laptop you can harness the accelerometers within the controller (no Nintendo Wii console needed, just the controller) by connecting it to your personal laptop. This then means that as you manipulate the controller the information of the forces being applied to the controller are being sent to the laptop and graphed in real time. As a result, you can then begin to explore major biomechanics concepts. One example of this is to insert the Wii mote into a foam dodge ball and have students throw the ball around to each other. The movements and forces will be mapped and provide excellent discussion for topics such as force summation. For a simple step-by-step video on how to set up the Wii mote with your computer, you can read the blog post at <http://tinyurl.com/csslwy>

So as some of you are left scratching your head wondering of the validity of using video games within a Physical Education class, I urge you to at least consider the possibility from a purely experimental viewpoint. As I have told my students all along, simulation sports are by no means a replacement for actual physical activity, but they sure do provide valuable insight and discussion into the multitude of reasons they are not. With good activities and teaching surrounding the game play, students can come away with an excellent understanding of the major concepts, by replacing completely static theory lessons with a more active and explorative approach.

Cell Phones in Physical Education

As a member of Generation Y, my mobile phone is indeed one of my most used and valuable personal tools. Today's mobile phones provide much more than phone calls, with even the most basic models containing a bundle of fancy extras. In 2003, I received my first ever mobile phone as a present for finishing year 12, flash forward to 2010 and today's students could benefit immensely by utilising their phones within their study.

So, before I got carried away and started exploring all of the potential ways in which they could be used in a Phys Ed classroom, I decided to survey my students. The reason being is that I didn't want to introduce a new technology to have it fall on its face because students simply did not have a mobile phone. As you are probably aware, the results showed that almost 95% of students in years 9 or above have a personal mobile phone. There was about 50% access to mobile phones in the younger years, making it at least worth considering.

The question now is what ways can you assist those students who do not have access to a device? Well the first way was to develop a class set of used mobile phones. I simply put the call out to teachers and friends to donate an old mobile phone that they knew was never going to be used again. Not surprisingly, most of the donated phones we received had a few features including cameras which could even be used without a SIM card.

The second way to ensure all have access is to design activities or tasks that have students working in groups that only require one mobile phone. This means that students who do not have access will naturally pair up with those who do. The best thing about this approach is that once you are aware of the students who have and don't have access you can even start make the groups yourself.

After sorting out some of the issues relating to access, the next step was to inform parents that students would be able to use their mobile phones under the direct supervision of teachers within my classes. This letter was to stop students exploiting the new possibilities by communicating the facts about where and when they could be utilised. It also provided an opportunity to explain that parents do not need to go and purchase a mobile phone specifically for the class, as a class set was available for use.

So with most of the organisation and planning complete it was now time to use them in my Phys Ed classes and here's how.

Photo and Video Camera Analysis

As most of us work in schools that have limited funds, it is almost impossible to gain access to enough video cameras, so students are working at a 1:1 ratio. This is the very problem I was facing at my school and then the idea occurred that all of my students had a mobile

phone sitting secretly within their pockets. So after asking the principal whether it would be ok to use them within class, I had my students bring them out of their pockets during a practical year 11 Phys Ed class.

The practical session was centred on teaching a variety of Biomechanical Concepts and as such each student was required to choose a sporting activity and piece of equipment and demonstrate the principles. The students then used their understanding of the Biomechanical principles to improve their peer's techniques. It proved to be a highly engaging and interesting lesson with all of the students actively involved in exploring concepts and correcting techniques. There was no opportunity for students to take a back seat, because they had to wait for equipment as everyone became a director, cameraman and actor within the videos.

MP3 Players

As most modern mobile phones have the ability to play MP3's and record sounds, it was a logical next step to utilise this capability. Students in my Year 10 Phys Ed class recorded a series of podcasts covering different theoretical concepts. These podcasts were then loaded onto their mobile phones, so that they could listen to the information and revise for a test as they were completing a casual walk or ride around the lake. This approach was successful in that the students were actually learning about the National Physical Activity Guidelines as they were being physically active. It proved to be a much nicer environment to learn the material as compared to a static classroom.

Stop Watches

As almost all phones have a stop watch with all sorts of other time related functions, it was a must that we used these within our Year 9 Phys Ed class. The students were given the role of personal trainer and required to time and run a fitness circuit using the inbuilt stopwatch. The benefit here is that each student had a more active involvement within the class. It also meant that the school wasn't forced to buy new stopwatches or repair ones that got broken by students, as each had their own and were guaranteed to not break it.

QR Codes

Basically a QR Code is a 21st century version of the barcode. The nifty thing about them is that they can contain much more information than the traditional barcode. Users with a camera phone equipped with the correct reader software can scan the image of the QR Code causing the phone's browser to launch and redirect to the programmed website. They are an excellent way to link the physical world with the digital world, to create real time learning in an outdoor environment. QR Codes storing addresses and URLs may appear in magazines, on signs, buses, business cards or just about any object that users need information from. For all the information you need about setting up QR codes on your mobile phone, consult a presentation I made for teachers <http://prezi.com/nxocvfz79hnp/qr-codes/>.

After having my students install QR Code reader software on their phones or activating the already existing software (on most Telstra Next G Handset) on their phones it was time to use them within the class.

- QR Code Treasure Hunts – The first thing we completed was an orienteering activity, which utilised QR Codes in the place of the markers. Students had to move around the town locating the QR Codes, then scan with a phone to log that they had reached that marker. The decoded message also revealed the next set of directions. For a more detailed explanation of the activity, check out the blog post at <http://tinyurl.com/bceg2b>.
- Learning the Skeleton with QR Codes – As Phys Ed teachers one of the most traditional things we teach are the human body systems and their role within sports. So with this in mind, I decided to create a 21st century version of the Skeleton model at our school. To put it simply, each bone had a QR Code affixed to it, which not only revealed the name of the bone, but linked to YouTube videos explaining further about that particular bone they had just scanned. For a more detailed explanation of the activity, check out the blog post at <http://tinyurl.com/cbeazl>.
- Digital Task Cards – The next step was to create a QR Code version of task cards for particular sporting skills. As students moved around to each task card, they simply scanned the code to reveal a video of how to complete the skill correctly. This put the students in the driver's seat as they were responsible for replicating a highly skilled performer.

Sure QR Codes sound complicated, but I can assure that they couldn't be easier to create and use. Simply go to <http://qrcode.kaywa.com/> and enter the information/URL that you want to link to and hit generate. You will have a QR code that you can print off and scan with your mobile phone to reveal the content. QR Codes have also been mentioned as an "Emerging Technology" that will contribute to the changes in the way we seek information in the future.

As you have probably noticed throughout the article, there has been no mention of the iPhone and the wonderful things it can do within a Physical Education class. This is because at the present iPhone saturation among students is very small. The features mentioned within the article are all within the capabilities of today's standard mobiles.

The final word I'll leave you with is from Professor Stephen Heppell who says that if we had known in 1970 that we would eventually have a device that would fit in the palm of your hand, be able to connect with anyone in the world, be able to take videos and pictures... you would have said we were crazy. Well we have all that now and schools are doing what? They're confiscating them as students enter the school. Hmmmm...

GPS in Physical Education

As an outdoor enthusiast I have always enjoyed the challenge of getting outside and exploring the natural environment. This enjoyment is what made me seek a career within the Physical and Outdoor Education fields. Flash forward to today's students and there is sadly an ever-growing mix of kids who simply do not leave their house during the course of the day.

Technology is often mentioned as one of the biggest distractions when it comes to today's kids and their ability to get active. However, technology can and should be used in a way that not only brings new possibilities but actively encourages kids to get off the couch and into the outdoors. Here are a few tools and activities that utilise Global Positioning Systems (GPS) that seek to do exactly that.

Geocaching

Geocaching, which is actually pronounced geo-caching, is a worldwide game of hiding and seeking treasure. A geocacher can place a geocache anywhere in the world, pinpoint its location using GPS technology and then share the geocache's existence and location online. Anyone with a GPS device can then try to locate the geocache.

A typical cache is a small waterproof container containing a logbook. Larger containers such as plastic storage containers (Tupperware or similar) or ammo boxes can also contain items for trading, usually toys or trinkets of little value.

Geocaches are currently placed in over 100 countries around the world and on all seven continents, including Antarctica. After 10 years of activity, there are over 1.1 million active geocaches published on various websites devoted to the activity, such as www.geocaching.com.

How to use in your Physical Education/Outdoor Ed classroom?

1. Have your students race to find a series of Geocaches around your town that require them to work as a team to solve puzzles in order to receive the next geocache co-ordinate.
2. Complete an active revision session for an exam by hiding questions at geocaches around your school. Students then have to track them down and answer to move to the next cache. This is a really engaging and active way to revise, that gets your students out of the classroom. (For more information, see my blog post at <http://tinyurl.com/c8nacl>)
3. Use Geocaching as a way to explore interesting natural environments in your local area. Simply set up geocaches at a point of interest and include a series of questions or discussion prompts for the location. This forces students to think that little bit deeper about the place they are visiting.
4. Use a series of geocaches on the school oval or local park to teach anatomical concepts. Basically, each geocache would represent a piece of the human anatomy and students would walk around discovering the caches in a sequential order. For example, a teacher could set up a chain of caches that took students through a simulation of how the blood or oxygen flows through the body. This would allow kinaesthetic learning minded students the opportunity to cement their understanding.

To get started with Geocaching, head over to www.geocaching.com and purchase a GPS handheld (examples on <http://tinyurl.com/5tr9ep>). Or for a very clear explanation of how Geocaching actually works, check out Chris Betcher's video <http://tinyurl.com/275qpmn>.

RunKeeper

The next addition to my senior VCE classroom was the exceptional RunKeeper application designed for the iPhone. RunKeeper uses the GPS technology found in the iPhone to track your fitness activity, giving you comparable results to an expensive GPS watch at a fraction of the cost. The intuitive and easy-to-use interface of the app makes it easy to track how far you went, how long it took, what your pace/speed was, how many calories you burned, and the path you travelled on a map.

Once your activity is completed, the data is synced to the RunKeeper website (www.runkeeper.com), where you can view a history of all of your activities, and cumulative totals of all of your vital stats.

Although the saturation levels of iPhones amongst our students are very low, it wasn't a barrier to introducing this activity into my classes. To counter this, I simply allowed the students to use my personal iPhone attached to an exercise arm band and had two other students utilise their own phones.

How to use in your Physical Education/Outdoor Ed classroom?

1. Use the RunKeeper app during the Cooper 12-minute run fitness test, to share distance, speed and intensity and allow for discussion of the interplay of energy systems during exercise.
2. Use the RunKeeper app to record an individual's movement patterns within a team sport to provide valuable insight into tactics and game strategies.
3. Use RunKeeper to record a virtual learning tour, which records your journey in the outdoors. Use the application to take pictures, record videos and post comments which are geotagged or linked to a Google map that you can review at a later stage. This then allows users to review exactly where they were the moment they took the picture. This was used during an Outdoor and Environmental studies camp in the Grampians National Park where I recorded a virtual tour, full of geotagged pictures of different human impacts. (For more information, see my blog post at <http://tinyurl.com/2vgpuhl>)

Nike +

Although not typically a GPS based technology, it allows for some of the same features by using an inbuilt accelerometer to measure the distance the device is moved. To put it simply, the Nike+iPod Sports Kit is a device which measures and records the distance and pace of a walk or run. The Nike+iPod consists of a small accelerometer attached to or embedded in a shoe, which communicates with either the Nike+ Sportband, a receiver plugged into an iPod

nano, or directly with a 2nd or 3rd Generation iPod Touch, iPhone 3GS and iPhone 4. After your run, you are then able to view a detailed analysis of your run and catalogue your activity on the Nike+ website at <http://tinyurl.com/lcwunr>.

As the vast majority of students already have their own iPods, it is quite cost effective and easy to introduce the Nike + system into a school environment, allowing for students to compete to accumulate the most kilometres. For a really detailed overview of the equipment needed and the way in which it can be used within a school, I urge you to check out how Epsom Primary School managed to do so at <http://tinyurl.com/352nzut>.

Seek and Spell

Although I haven't used this with my students, it is something that would be a great addition to any English or remedial class, to encourage students to improve their spelling in a practical sense. The Seek 'n Spell application uses your iPhone GPS to create a new type of game. The object is to gather virtual letters and create words. Seek 'n Spell is played in parks and open, outdoor spaces and is a really strenuous physical and mental challenge to create as many words as you can within the designated time. Add a friend to the equation and your physical spelling contest becomes all the more interesting.

With GPS capabilities appearing within most devices, it is quite reasonable to think that within the next couple of years all of the above mentioned applications and activities would be 100% accessible to our students. This opens up the door to educators to use technology in a way that adds to the physical activity dimension and allows for the less engaged students to actively seek involvement in a less traditional physical education setting.

With countless research showing that heading outside can greatly enhance your memory and concentration as well as provide your brain with fresh oxygen, it is therefore an absolute necessity that we ensure this happens every day. If these tools allow for even more time to be spent outside, as opposed to working within a standard classroom setting, then they are absolutely worth all teachers considering their potential power.

So, keep it moving and get active with GPS.

Digital Video in Physical Education

One of my favourite memories from my junior sporting years is a video of me running a 400m at the Victorian Championships. To this very day I still find myself watching it when I feel like taking a trip down memory lane. However, the purpose of filming the race all those years ago wasn't based on fuelling any future nostalgia, but giving me an avenue to see my race in a completely different light. Back then my understanding of technique and tactics was only limited, but the one thing that was certain was the incredibly motivating effect video has on sporting performance.

With this positive experience in mind, it is an absolute must that I aim to incorporate the wonders of digital video within my Physical Education classes. For most sports coaches and educators, video is not a completely foreign tool. It has indeed been used and promoted for years by elite sporting teams and organisations like the Australian Institute of Sport. However, in recent years, the ability to mix digital video with other media and share it via the internet has opened up a whole new area of possibilities.

Filming and Sharing Digital Video

- 1) **YouTube.com** – The digital age has brought about a host of new video sharing options, with none of them easier than YouTube. As you would be aware, there is really no greater catalogue of sporting videos than those that can be found on YouTube. Are you teaching a new sport in one of your classes? Then why not mix in

a clip from YouTube to help you demonstrate a sporting action. In today's day, this is super simple to actually achieve. Simply access the video via a mobile phone or take a laptop and maybe even a projector to the sports hall and have people watch and re-watch videos over and over again to ensure they fully understand the sporting skill.

How about approaching it from the other side and rather than consuming content from YouTube, contribute content to the community by uploading your own videos? Have your students teach a sport or physical skill, upload it, then sit back and watch as people from around the world watch and comment on the video. You could even pair up with a school from overseas and seek to teach them some of the basic skills within one of our own Australian sports. If you are unable to access YouTube, then try some of the other alternatives <http://tinyurl.com/lpez4r>.

- 2) **TubeChop.com** – With the absolute plethora of videos on YouTube, it is a must for Physical Education teachers. The great thing about TubeChop is that it allows teachers to select a certain section from a YouTube video and share only that section. Great way to filter the nonsense on YouTube.
- 3) **Flip Video Camera** – The first and most essential tool for a Physical Education teacher. No other camera is as simple to record video footage, making it a snap to film and analyse sporting techniques and game play. With a few of these very low cost cameras in your classroom, you can easily review footage and begin to use it as a means of practical assessment.
- 4) **Posterous.com** – Want to store your digital video? Then try Posterous, the simplest way to make an online digital portfolio of your sporting performance that can be reviewed and analysed over time. Simply film or record the desired skill and send the video file within an email to post@posterous.com. This will turn your email into its very own unique website, where the video can be watched online. Have a new video or document you would like to include? Simply send a new email to post@posterous.com. By far the easiest, no fuss way to put anything you like online.

Video Analysis and Assessment

The next step in using Digital Video in your sports classes is to incorporate some form of video analysis. This can be done as easily as reviewing content you have recorded with a Flip Video camera on the spot or more extensively with software packages.

- 1) By using a step-by-step technique checklist, students can actively review their sporting performance to determine what elements of a technique are still yet noticeable. This can then be coupled with a peer or teacher evaluation as a valuable assessment piece.
- 2) This can be taken a step further by introducing some simple to use Video Analysis Software such as Time Warp 4. Using the software and a camcorder connected to a laptop, you are able to review your movement immediately after it has been

performed. Once the required time delay is set, the operation is hands-free and provides instant visual feedback. As you can imagine, the ability to instantly review your action after a set period of time is an incredibly powerful tool within any Physical Education class.

I have tried this on a number of occasions with excellent results found across all sports and activities it has been used. More recently I connected the laptop to a projector and had it running a 5-second delay within a Volleyball Match. The students were then able to glance over without leaving the court and observe any errors that were made. It also allowed for great discussion of team tactics and a variety of teachable moments that occurred throughout the session. One of the most pleasing aspects of the entire process has been the improved levels of student motivation as a result of the ability to review any aspect of their performance, especially the moments where they are successful. This motivation carried into all forms and I am asked almost weekly when our next instant replay session will be. For a video demonstration of the activity, view the video at <http://tinyurl.com/35aole8>.

- 3) If you're after a more advanced video analysis, then you can't look past "The Zone" by Silicon Coach. The Zone allows teachers and sports coaches the ability to analyse videos in a completely online web-based/no software required environment. From your first experience, you will immediately be able to notice the benefits of being able to review your videos within "The Zone". Coaches, referees, biomechanics, mentors and athletes all benefit from being in The Zone. The Zone's key benefit is that it improves performance by providing a set of tools for sharing knowledge and expertise about skilled movement. It also features an extensive library of lesson material that can be used to teach anything from Biomechanics to the perfect golf swing.

In a recent classroom activity, a group of year 10 students recorded themselves completing a serve in badminton and then compared it to an elite performer to determine any gaps within their technique. The software, which was learnt within 5 minutes, allowed them to advance the video frame by frame. It also allowed them to draw on the video to determine their range of motion within the serve and also measure the angle of their elbow during contact.

One of the benefits of using online video analysis software such as The Zone is that you will always have the most current and up-to-date versions of the software, as there is nothing to download and install. It also means that you can use it wherever there is an active internet connection. Sounds good? Go ahead and try The Zone in the demo site at <http://thezone.siliconcoach.com/TryAsGuest.htm>.

Digital Video as Motivation

One of the simplest and most powerful ways you can use Digital Video within your classroom is to create a dedicated "VIDEO Team". The job of the video team on a lesson by lesson rotation is to film and record physical activity within practical sessions. The video team are then responsible for editing and compiling the footage into a two-minute montage that can be played back in the following week. This simple idea has proven to be a real winner with the younger groups, as they seek to produce something that everyone will be able to enjoy together. This footage can then be shared amongst the class as a way of remembering the fun that can be had within Physical Education classes.

Even though Video itself isn't an entirely new concept in Physical Education, it has however taken a variety of new forms. Students are no longer bound to sharing their performances only within their own classroom, but can now also share them with the wider world. One thing is for sure, the use of video will motivate your students to want to improve and after all, isn't that what it's all about?

Apps to Get You Moving

Sit on any train these days and count the people tinkering with their mobile phones – you will be surprised at the number. From reading the news to listening to music, playing games, browsing the internet and even banking, mobile phone ‘apps’ enable their owners to be engaged in all manner of activities while on the move. It is hard to not worry about the time these apps take away from our interactions with each other and the outside world.

What Is An App?

In simple terms, an app is a small piece of software that is designed to be used on smartphones, such as Android or iPhone handsets, and tablet platforms such as the iPad. With hundreds of thousands of apps available, there are many that can actually improve your health and get you interacting with the real world. Here we list the top ten apps for getting you moving – just search Apple’s iTunes or Android’s Market to see if they are available for your smartphone.

Couch to 5k (C25K)

This nifty little app will make even the hardest couch potato active. Simply run the app to be guided through a program that helps you work through a series of building block training steps that culminate in a 5km run. It even takes you through appropriate warm-up and cool-down routines. Use it in your health classes to discuss the many approaches to promoting physical activity in the community. You could also discuss the strengths and weaknesses of training methods such as this app.

RunKeeper

RunKeeper is a favourite app for many. You can simply go for a run, walk, ride or jog – or even go skiing – while running this app and data from your activity will be recorded. Most modern phones include GPS functionality, enabling RunKeeper to present you with a plethora of statistical data on the activity, including total distance covered, your speed and elevation, and even a Google map that tracks your activity in real time. It also uses real-time voice feedback. Use RunKeeper during the Cooper 12 minute run fitness test to share distance, speed and intensity, and to allow for discussion of the interplay between energy systems during exercise.

Hundred PushUps

The first in a series of apps designed to improve your core strength – simply complete the initial push-up test and the application designs an appropriate training program to guide you to the ultimate goal of 100 push-ups. Use this app within a classroom environment to explore fitness components and see how they can be developed to improve sports performance.

Yoga Postures

This unique app brings yoga into your classroom. With a collection of basic, advanced and lesser known yoga postures, you will soon be stretching out the corners of your body in

ways you had never thought possible. This app makes flexibility – an often ignored fitness component – easy to monitor and develop.

GymGoal ABC

GymGoal ABC keeps track of all of your workouts. With step-by-step how-to animations for over 250 exercises, this app is perfect for such as running, cycling, cardio work-outs, power walking and interval training, can easily inspire student discussion around the extrinsic factors that assist in motivation for physical activity.

Geocaching

Geocaching (pronounced 'geo-cashing' is a worldwide treasure hunt. A geocacher places a geocache anywhere in the world by pinpointing its location using GPS technology and then publishes the geocache's existence online. Anyone can then try to locate the geocache using either an iPhone or an Android smartphone. Geocaching will have you running around and exercising without realising it – there are currently over 1 million active caches in existence across 100 countries. Have your students race to find a series of geocaches in the local area, as it will require them to work as a team and solve puzzles in order to receive the next geocache.

Motion Traxx Radio

Use this application to enhance your workout as it mixes music to boost your energy and help pace your movements. The nonstop mixes, which work for exercises teaching students such exercise concepts as progressive overload and specificity.

Sleep Cycle

Although not designed specifically to get you moving, the Sleep Cycle alarm clock will help you wake up feeling refreshed and ready for the day's activities. The app has you set a wake-up time and then, within a half hour window before that time, it measures your sleep patterns using the iPhone's inbuilt motion sensor and wakes you up when you are in your lightest sleep phase. This ensures that you wake feeling alert, rested and relaxed. The theory behind the app is that during our deepest sleep phases, we are motionless. Use it in class as a means of discussing the importance of REM sleep for growth and repair.

Pedometer

Pedometer tracks the number of steps you take, the distance you have travelled and the calories you have burned, making it great for measuring the physical activity of your student cohort. Take it to the next step with a discussion on how various occupations have differing physical demands.

Bleep Test

The app allows you to complete a beep test and then records and plots your changes over time, which is a fantastic way to self-motivate your improvement. Use this in your classroom as a pre and post-test, allowing students to measure the changes in their V02 max levels and see how their training affects these.

Now It Is Time to Take the App Jump

If you are worried that a smartphone will get in the way of your exercise regime, you should consider jumping on board this revolution and incorporating some of the apps available into your routine. As smartphones begin to reach an ever increasing number of people, you can bet that most students will be utilising these apps in the next few years - opening up an entirely new and exciting way of keeping physically active.

Apps to Get You Moving Part II

With the world of mobile apps continuing to mushroom, it is time to share with you another collection of apps that will prove invaluable to your teaching. With the future of learning being mobile based, the following apps will help your students explore content and develop their movement skills. So if you do not have an iPod, iPhone or iPad, then you should urge your school to purchase one so that you can take advantage of the technology for improved student outcomes.

Superbodies HD

This app allows you to peel away the human skin to reveal exactly what takes place at a physiological level in elite athletes. The app is available for iPhone, iPod and iPad and allows users to select a focus sport. The app launches an introductory video, narrated by Dr

Greg Wells, before it takes you inside the body. From this point on the app really excels and you navigate through the blood stream via a simple yet exciting navigation system. As you approach points of interest related to the focus sport, the app switches to a video explanation or piece of information. This app provides a totally immersive experience for students and teachers that dramatically enhances how students learn about human bodies and movement.

Cricket Coach

This app is a full-scale video-analysis tool that allows for dual-screen breakdown. Although the in-built library includes videos of various cricket shots, users are able to record and use their own videos. This ultimately means that you can film and analyse your recordings from any sport you desire. As the iPhone and iPad have in-built cameras, you can shoot footage and analyse it immediately. You can also use this amazing app to analyse student performance in a variety of athletic field events with a high level of success. For example, students can complete a long jump and then watch their effort instantly with full annotations.

Burst Mode

Burst mode is an excellent app that allows you to capture the perfect image in a fast moving activity. Simply set the amount of frames to be captured and the timing of these frames and hit the record button to capture a burst of pictures. The user can then go through the frames one by one to review the execution of a specific skill or movement pattern. This app is great for coaches or students interested in improving their performance and it is a superb addition to gymnastics classes.

Tempo Perfect

This app turns your mobile device into a fully functional metronome that can be used by PE teachers to allow timing of all sorts of exercise. Simply set your desired tempo between 48bpm and 280bpm and you are away. One way to use this is to time a step test and allow students to explore their physiological response to exercise. Get your students to complete one minute of activity at 65bpm, one minute at 75bpm and one minute at 85bpm, then measure their heart rate responses to determine how the body responds to increased intensity of activity.

Yo-Yo Test

This app allows people to undertake the Yo-Yo intermittent recovery test completely from their mobile device. Not only does it guide you through the set-up but it allows users to keep a record of their performance and compare their performance to associated norms. This app is a must-have for anyone looking to develop students' understanding of fitness components and training programs.

eClicker Host

This nifty little application allows teachers to set up and administer a multiple-choice quiz directly from their mobile device. The app does this by producing an internet address that students must visit to take the test. As students complete the questions, the app produces an excellent breakdown of the results, which they can use to frame further teaching and discussion. This is a perfect way to gather instant feedback from your students during theoretical assessments.

iPadio

This app is perfect for mobile blogging as it allows students to record their thoughts, feelings, responses to questions and anything else that they desire to share. Use it in practical classes or excursions to share student understanding and connect learning from the outdoors with theoretical content.

TimeMotion

Fantastic FREE application that allows you to record locomotion types of either live or recorded team sports. While observing the activity, simply select the type of movement the athlete is completing and update throughout the game. The app keeps a statistical breakdown of time/percentage spent standing, walking, running, sprinting etc. allowing for a detailed exploration of energy system usage, training requirements and much more. TimeMotion can be found at <http://goo.gl/uQTvR>

iMuscle

An incredible application that allows you to explore the muscles of the human body in isolation. Zoom in close to find out the anatomical name, appropriate stretches and training. Recently used while connected to an interactive whiteboard to explore stretches for specific muscle groups. iMuscle can be found at <http://goo.gl/byUts>

Step Test

Designed and built by myself with PE teachers in mind, the step test app quickly and easily facilitates the queens college step test. The app guides the user through the test using the internal metronome to keep users in a “up-up-down-down” cadence. At the completion of the 3minutes the user measures their Heart Rate for 15 seconds (which is facilitated by the app) with this data then being used to determine the user’s cardiovascular fitness and predicted V02max. A simple way to explore the chronic adaptations that occur as a result of training. Grab the Step test at <http://goo.gl/edbSp>

Heart Rate Training Zone

Helps you to determine your maximum heart rate then allows you to focus your training within a designated zone to ensure you maximise your training benefits. Measure your Heart Rate using the app by simply tapping the screen in sync with your actual heartbeat. Heart Rate Training Zone can be found at <http://goo.gl/dUJwg>

TruPosture

Amazing application that allows you to use your camera on your device to explore the state of your posture. Simply stand tall and have someone take a picture and let the app immediately identify the areas under pressure. TruPosture can be found at <http://goo.gl/YcY6Y>

Easy Tag

Simple application that allows you to do statistical recording within sports. Perfect for getting Key Performance Indicators from within games. Have injured students do recording during practical classes. My senior PE students used this recently to create a skill frequency chart, which then helped them develop a training program that accurately included the principles of specificity. Find it at <http://goo.gl/ILACc>

12MinuteRun

An application designed and built by myself to facilitate the coopers 12minute run fitness test. Uses the internal GPS of the iPhone to measure distance. This distance is then used with your gender and age to determine your aerobic fitness level and predicted V02max. No more setting up cones in 15metre intervals around your school oval. Simply run and the app does all of the work for you. Find the 12MinuteRun at <http://goo.gl/X2xN3> or See the video demonstration and review <http://goo.gl/WycWM>

There you have it, 14 reasons to consider making mobile devices true companions within your PE classes. With nothing to lose and everything to gain, it sure is a no Brainer.

Apps to get you Moving Part III

In recent months web traffic to the www.thepegeek.com blog has exploded with well over 500 unique visitors a day. While looking through the site statistics its clear that the most popular search term used to locate the website was in fact 'PE apps'. This is no surprise at all with the word 'apps' recently being crowned word of the year by the American Dialect Society, beating out other popular buzz words. With this in mind, and the fact that over 1000 new apps make it to the app store everyday its worthwhile exploring how they can be used in Physical Education

1) The Vital Signs App by Phillips (only for iPad 2), allows for remote heart and breathing rate analysis. Simply place an iPad 2 on a table in a well lit room, place your face inside the box on screen and the app will go to work to determine your heart rate and breathing rate. How is this possible you might ask, well heart rate is actually completed quite easily by comparing the tiny changes in colour of your face which occurs as a result of capillary refill. The measurement of breathing rates occurs via simply counting the rise and fall of the users chest. In a PE classroom this could be used by Incorporating the iPad into a station during circuit training and having students assess their cardiorespiratory response. Teachers could connect it with a projector to explore the acute responses to exercise and how these are affected by practical activity.

2) Coaches Eye - Just when I thought Video Analysis on iOS devices couldn't get any better it does with this nifty little app making analysis a breeze. Simply point to record your desired sports action or choose existing video footage. You are then able to review the video frame by frame, draw and highlight points of interest and best yet you can record a narration over the top of the video further emphasising points of interest. The other exciting feature is automatic system that shows you which videos have been reviewed and which are still waiting. Perfect for teachers and assessment. Have students pair up, film each other's technique during a discovery learning session prior to teacher instruction, and then re film to conduct a before and after comparison.

3) SprintTimer - Simply the best timing app, perfect for capturing near Olympic level accuracy during races. The app works like this, simply stand at the finish line holding the camera at eye height. As the race commences, the app will begin timing when it hears the gun and also allow for the time it takes sound to reach the device. As the racers approach the finish line, the user hits the 'begin detection' button which starts the photo finishing feature allowing for one person to time the exact time that all racers cross the line. As soon as the last racer crosses the line, the app produces a scrollable image that can be used to separate even the closest finishes. For a quick tutorial on how to use the app check out the video at the following link <http://tinyurl.com/7atduk3>

4) [TempoMagic](#) Allows you to alter the tempo of the music on your device. Simply select the song or tempo that you require and the app will go to work to convert all the other songs on your device to that 'magic tempo' without affecting the pitch of the songs lyrics. Perfect for fitness circuits, running or anything where you need a consistent tempo.

5) SportsCam - A 100% free high end video analysis app that fits within your pocket. Film a sports skill or action and immediately begin an analysis that can include side by side comparisons. Users can also draw on video footage to explore biomechanics concepts or skill development. Videos can then be uploaded to YouTube from within the app.

6) Sports Rules - A simple app for PE teachers who desire quick reference of rules in over 18 popular sports. Simply select the sport you are interested in looking at to read through the rules required to get a game going in your classroom. More sports will be added making this a one stop shop for busy teachers. Give it to your students in a SEPEP model and have them learn and review rules before giving them the umpiring role.

7) speedClock - To put it simply this app is essentially a speed camera, allowing for the measurement of any objects speed. Simply set the distance between you and the object you wish to record and the speed is displayed. Don't worry even if you don't know the exact distance between you and the object, you can use the estimation tool which uses your height to determine the approximate distance. Use this app in the classroom to explore biomechanical principles such as Newton's laws, or use it to compare the peak speed of a student during a sprint. Check out the video demonstration at the following link <http://tinyurl.com/chjreh6>

8) Stress Doctor - A true Biofeedback app has arrived for iPhone 4/4S and it is amazing. A perfect way to teach students about psychological methods that enhance sports performance. Stress Doctor visualizes respiratory sinus arrhythmia (RSA) which, in layman's terms, is the rising and falling of your heart rate when you breathe in and out. When you inhale pressure in your chest drops and consequently your blood pressure drops as well. The app uses this biofeedback to take you through a deep breathing exercise that will make you feel more relaxed. By the makers of [Instant Heart Rate](#), this is a really high quality app.

9) FitDeck - A collection of high quality task cards for all sorts of fitness activities. Have students work their way through random activities, following the clear instructions. They can choose to complete a beginner, intermediate or advanced workout which is shown on the top right of each card. Simple and highly effective, with over 250,000 users this is a must have. Have your students use it to complete a modern day fitness circuit.

10) Endomondo Sports Tracker - An incredible app that allows you to record activity via the iPhone's GPS. The best part about it is the fact that any activity you do becomes social, allowing your movement to be followed live via the Endomondo website. This gives students the option to send through messages of encouragement, or discuss physiological responses to exercise. Imagine watching a fellow classmate completing a run live around the school oval, and being able to observe vital statistics such as speed, distance and elevation.

10) Heart Rate Recovery - A clever little app useful for exploring heart rate responses to exercise. Use it to measure your resting heart rate, training heart rate or your recovery heart rate. The latter can be used to indicate your cardiovascular fitness by providing you with a

score, which can be tracked and improved over time.

11) PLATOSPORT - A superb match analysis app from Dr Grant Abt and Dr Lee Nelson. Any combination of Player, Location, Action, Time and Outcome (PLATO) can be recorded. PLATOSPORT also allows you to graph the results directly on your device and then share them by email. Have injured students use to complete an intense analysis of given sports, which can then be used to discuss training program requirements or conduct a comparison to elite and amateur players

This year the rise of mobile applications has seen a plethora of amazing physical educators begin to utilise 'apps' in their classes in a myriad of ways. However one of the biggest problems with searching the app store is that it can sometimes be like trying to find a needle in a haystack. With this in mind, an app has been designed to eliminate the hassle.

Introducing the "PE Apps" app. A one stop shop for PE teachers to discover the best apps for use in the classroom. Simply select the category of app you are after to find a heap of great apps, each of which including suggestions for classroom use. Like the sound of an app? Then hit the button to be taken to the app store for quick download.

So go ahead and grab the app and discover the amazing potential of mobile learning in the PE classroom. The greatest thing about the app is the capacity for new content to be added as often as needed. This means that as new apps are discovered, users will quickly know about them. Grab it here <http://goo.gl/UmMNY> and keep up to date with the best in apps useful for PE teaching.

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