

# **Using Video Cameras in Physical Education**

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# Using Video Cameras in Physical Education

## ***Introduction***

The use of digital still images and digital video (content) has opened up an exciting and highly effective way of enhancing learning in schools. Physical Education is a subject in which a great deal of visual learning takes place. The new technologies provide clear images of performances and specific techniques, as well as the opportunity to provide pupils with immediate visual feedback of their own movement through video replay. New software makes this process easy to manage within lessons.

Over recent years video has become readily accessible to teachers as cameras have improved and become relatively easy to use. However, much of the content filmed in schools is of poor quality and does not make maximum impact on the learner as a result. These problems are often magnified when pupils are given cameras to use within PE lessons with limited or no instruction.

This module will help teachers to learn more about the effective use of Video cameras to collect images that enhance learning in the subject. More teachers use cameras in their every day physical education lessons to provide feedback to pupils than ever before. By following a few simple principles teachers can quickly learn to use cameras proficiently to collect more powerful video clips.

The module aims to: -

- To provide an understanding of the type of equipment available
- Help PE teachers to use basic camera techniques to enhance the quality of the recorded content.
- Ensure that appropriately video clips are filmed for supporting learning.
- Be clear about the child protection issues
- Provide a structured sequence of tasks for teachers to follow to help consolidate both technique and understanding.

## ***2. Specific use of video clips***

With modern technology it is possible to use video clips very efficiently to focus pupils attention on very specific details within a technique or performance. The best way to manage video within PE is to use a specific software package. For example DartTrainer or Kandle. These sports software programmes allow teachers to manage their video clips, create play lists, loop clips, play in slow motion and bring significant functionality to the teacher. The days of rewinding tapes to access a particular video clips are rapidly coming to a close thanks to the integration of video and computer technologies.

Which ever system of video management a teacher or school chooses, video can be used for a number of reasons within PE:-

### Reference clips

These video clips are selected by teachers and saved to make particular points to learners. Reference clips do not all need to show the perfect technique, but are saved and used because they allow pupils to see a particular aspect of performance. Work has shown that some reference to elements of a performance which is clearly weak can help learners to understand what they must concentrate on to become better themselves.

### Feedback to learners

Often capturing a pupil performing and then allowing them to see the video clip shortly after their performance is a very effective way of providing feedback. On many occasions the dialogue with the teacher is more of a discussion with the pupil rather than the teacher simply giving their opinion. As such the learner/performer is much more involved in self assessment. This process can be managed through a computer using software which will delay the video stream.

### Assessment for learning

Video clips can also provide teachers with evidence of progress made within a block of work or even within a lesson. The ability of short video clips to help pupils analyse and evaluate their own and other pupil's performances brings a unique value to lessons.

This can be managed in its simplest form by using a camcorder with a small LCD screen for reviewing the video clip.

### Motivational effect

Many teachers use video feedback to support elite performers. However it is important to note that work on the "video based learning in PE project" has identified the increased motivation of low ability pupils as a significant benefit of using video feedback in PE lessons.

## 3. Using a storyboard

In order to avoid videoing large amounts of content within a lesson, which is often of little value, it is important to prepare a storyboard as part of the lesson planning. This is simply a list of images, which are required to support the key learning objectives in the lesson. The storyboard should set out the clips that would make maximum impact for the learner. In some cases reference clips can be listed within the storyboard to provide teachers with starting points for class discussion.

<b>Storyboard</b>	Gymnastics -- Sequencing skills
Ref. Clips	Good Yr8 sequence showing fluent movement and good body tension  Clip:- gym 34
Images to collect	Film short clips of 4 pupils - 2 good ones - 2 improvers

### Choice of Camera

PE places significant demands on the quality of image due to the nature of the activities being videoed. Activities often happen at speed and require high quality video capture to enable viewing of slow motion or stills.

Traditional camcorders that record onto VHS tape or web cams do not produce high enough quality. Digital camcorders that record onto digital tape provide the most cost effective option.

Cameras will generally be used in the PE environment on batteries. Most cameras can be purchased with larger capacity batteries, some of which can last throughout a teaching day without re-charging. An alternative is to have spare batteries so that some can be charging while the camera is in use.

Many cameras now provide an 'Analogue in' facility to capture video from other sources such as Satellite receiver, TV or VCR. This enables teachers to capture video of sporting events onto digital tape for use in teaching.

The ability to transfer video clips from a camera into a computer for storage, cataloguing and manipulation offers greater flexibility in how clips can be used. Specific software for use in the PE and sports environments is now available to teachers. Digital cameras use a system called Firewire for this transfer. Both the camera and the computer require firewire sockets and a firewire cable is also required.

### ***Wide angle lens***

At times it can be difficult to find the best position for the camera without interfering with another activity or group. A wide angle lens or a wide angle lens adaptor for the camera enables the camera to be positioned much closer to the activity and should be considered an essential feature when deciding which camera to purchase.

### ***Tripod***

A good quality tripod, designed for use with a video camera, is essential for videoing PE activities. Any camera shake will reduce the quality of the recording. The tripod is also essential for smooth movement of the camera when following an activity.

### ***Environment***

Capturing good video clips depends as much on the environment as on camera technique. There are a number of things to consider:

- **Background**

Look carefully at what is in the background as you video. Avoid filming against wall bars, PE store areas, windows or with other pupils working in the background. If necessary move the camera to change what is in the background.

Certain backgrounds can enhance a recording making it much easier for pupils to concentrate on the activity. Plain, pastel walls (e.g. pale blue or pale green) have proved to be the best background to work with.

It may be possible to make modifications to the environment that will enhance the use of video for example the removal of wall bars from one wall or repainting a wall.

- **Lighting**

Good lighting is crucial to getting good video. This does not mean that specialist TV lighting is required but the choice of location for videoing can make a significant difference.

Avoid videoing where the background is brighter than the activity being recorded for example videoing with windows or an open door behind the activity. Avoid wide shots that include lights.

## ***Sound***

Most cameras have a built in microphone which will record the ambient sound. It is difficult to get good sound in the PE environment, the spaces are often very “live” or the activity is happening too far away for the camera to pick it up.

Decide if the sound is required, often it can add little to the video when giving feedback to pupils.

There are circumstances when the sound may be important such as when videoing dance or when the comments of a teacher are needed. In these circumstances additional microphones may be required. It is always worth trying it out first using the camera microphone to see if it is good enough.

## ***Getting Shots***

- **Framing**

The framing of the image in the viewfinder is crucial. Your storyboard should guide your choice of shot.

Points to consider:

- Does the shot need to include the whole performer or concentrate on part of the body e.g. upper body in a throwing event?
- Ensure that the shot does not include more than is needed i.e. zoom in as close as possible.
- Give enough space in the frame to include the whole movement and items such as rackets, approaching balls, hurdles or apparatus.

- **Panning & Zoom**

Panning is needed if following an activity that includes movement across a space. Ensure that the performer remains within the frame at all times. It can help to pan slightly ahead of the performer so that the performer has space to “run into” without running out of the frame.

It is easier to keep a moving performer in the frame if the camera is zoomed out but this can make the size of the performer in the image too small to be of any use.

Zooming in or out during a shot should be used only for creative effect – it will not add anything to shots within the PE context and can confuse or disorientate the viewer.

## ***Viewing***

If video is to be used in the teaching situation to provide feedback to pupils some means of viewing it is required. Ideally the image should be large enough for pupils to see it from where they are working. Small groups can use smaller.

There are a number of options including:

- Projector - the image can be projected onto the wall. Ideally this part of the wall should be flat, smooth and painted white. Special projection screen paint can be used which enhances the image. The image must be high enough to ensure that no one using the space could get blinded by the light from the projector.
- Plasma Screen – these provide good quality images of a reasonable size for groups of pupils or a class to view
- Television – can be used if showing clips from a video tape but not if the clips are on a computer.
- Laptop screen – can be used for feedback to small groups
- Camera screen – although very small this can be used for feedback to individual pupils

## ***Health and Safety***

As with the use of any equipment within the PE environment health and safety should be considered. The use of cameras with laptop computers and screens needs careful planning. The main potential hazards are trailing cables and equipment that pupils may injure themselves against. Every effort must be made to minimise the potential risk.

## ***Child protection issues***

With digital video now the norm in many school teaching environments, teachers need to consider the risks associated with video clips being shared across a network or more importantly within a pupils web page. Clearly with e-mail and website site facilities images can easily be sent around the world. It is therefore essential that all

teachers and schools apply basic procedures and protocols to ensure pupils video clips and still images are protected from abuse.

The following guidance sets out the issues for schools. It is important to note that this is a whole school matter and not just a PE department problem. This said the potential benefits video clips provide to pupils in enriching learning and add significant value to lessons make it an essential part of modern education. Adhering to the protocol will safe guard both teachers and pupils.

## **Guidance for the use of Digital Video**

The following paper addresses the procedural and protocol issues, which need to be addressed to ensure that content, is managed effectively and securely. This is particularly important since digital images can now be transmitted and manipulated easily. Child protection issues have to be central to any decisions regarding the storage and use of images in education.

### **Permission from parents**

Parental permission should be sort before filming or photographing pupils. Add details to the admissions form, identifying the fact that digital video and stills are used in education to support learning.

### **Defining the use of content**

A distinction needs to be drawn between the use of images and video used in-house and those used for publication.

### **In House use of video and digital images**

In-house: used within a school or group of schools as part of a defined educational project or partnership. For example, between a secondary school and its feeder primary schools. At all times the way the content is used is controlled by the school or project.

- Access to content is controlled by authentication mechanisms such as password protection and/or identification of specific computers.
- Manipulation of images must be restricted to appropriate formatting and display purposes i.e. to enhance the content for educational use.
- Teachers should be aware of the dangers of distribution of content via email or CD ROM. This leads to a loss of control over the content by the user group.
- Appropriate guidelines for filming images should be followed. See below.

### **Publishing images and video**

**Publishing:** any content that is distributed beyond a defined group, via videotape, DVD, CD ROM or a website/Internet.

It must be noted that publishing content, particularly images or video of minors in the physical education environment has obvious risks and the following guidance is set out to minimise these risks for both the teachers and pupils. This guidance should be read in conjunction with DfES safe use of the Internet (<http://safety.ngfl.gov.uk>) and child protection advice such as that provided by Sport England and the NSPCC. <http://www.sportprotects.org.uk>

### **Specific guidance for posting images on notice boards and websites**

- When using images of pupils on web sites, an easy rule to remember is **if the pupil is named, avoid using their images. If the image is used, avoid naming the pupil.** The same rule should apply when using digital video.
- Advice on filming for publication and schools use should be followed.

### **Filming Guidelines**

The following guidelines will help teachers to both reduce risks and enhance their image feedback to children

1. Pay particular attention to the background. Clutter free backgrounds focus the attention of the learner on the specific movement/performance issues.
2. Care should be taken over the angles chosen for filming higher risk sporting situations (i.e. swimming, trampolining, some athletics events, gymnastics) Profile shots (side-on) are generally more informative and less prone to risk of misuse.
3. Filming pupils on the pool side should be avoided
4. Some sports clothing creates added risk.
5. Try to set the camera on a tripod and avoid filming situations where the camera is used indiscriminately to film pupils who are unaware that they are in shot.
6. Inform all pupils working within the space that video is being used.

The following additional points should be noted if video content is to be published

7. Use of GV (general view) shots to establish the theme
8. Shots held for a maximum of 3 seconds reduce risks (this makes the clip very difficult to manipulate)
9. Any pupil shown in a video or still image should not be identified by name.
10. Interviews should be head and shoulders
11. Interviews of minors should not identify them. (This include text over and voice over)
12. Group shots should be in wide vision

### **Storage of used tapes**

1. First generation content (master tape or high quality video files) should be held in a securely since these are more readily manipulated in the wrong hands.

2. Libraries of tapes need to be managed with care; unnecessary storage of material should be avoided. Content which is no longer needed should be destroyed or erased.
3. The reuse of tapes, which have not been erased, first, can increase the risk of unwanted images being used inappropriately.

## Sample consent form for the use of photographs or video in school.

Digital video and photographs may be used in a number of areas of normal school activities. The following sample letter does not specifically refer to physical education and should be seen as a means of gaining parental consent for all activities, which use digital video and images.

Dear Parent/Guardian

Digital video is an exciting new medium, which can motivate and inspire pupils. Whereas the risks are minimal, schools have a duty of care towards pupils.

(*School*) recognises the need to ensure the welfare and safety of all young people.

In accordance with our child protection policy we will not permit photographs, video or other images of young people to be taken without the consent of the parents/carers and children.

The (*School*) has policies in place for the use of photographs and video a copy of which is available from (*insert name*)

The (*School*) will take all steps to ensure these images are used solely for the purposes they are intended. The photographs may be used in our printed publications, for display around the school, as teaching resources within the curriculum and on the internal school website.

The video clips may also be used as teaching aids within the curriculum and for staff training and educational purposes at both Local and National Level.

At no time will the images be sold or made available for wider publication without further parental approval.

I consent to ( school) photographing and videoing my child as described above.

Please complete, sign and return this form to **[named person]** at **[school name]**

NAME OF CHILD .....

NAME OF PARENT OR  
GUARDIAN .....

ADDRESS .....

.....

.....

I have read and understood all of the above and I agree that my child can take part in the project using digital video.

Signature .....

Date .....

Queries regarding this form should be addressed to the **[school address]**