Education and Training

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Lifelong Learning Programme

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# Manual 3

A guide to video production to online learning

# Introduction to DeLTTUE

This manual is one of a series that form a toolkit that has been produced as part of the European Commission's Lifelong Learning Programme funded project – Developing e-Learning Tools for Trade Union Education (DeLTTUE).

This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein

The DeLTTUE project aims to produce innovative tools, strategies and good practice guidance to support the development of online learning within European trade union education and will enhance the online learning experience for union learners in all participating countries and throughout Europe.

The project involved nine partners from five countries. The consortium included five trade union confederations and the education and training agency of the European Trade Union Confederation (ETUC) as well as other partners in the UK.

# Contents

This manual is designed to give an overview and insight into the practical steps and considerations required when producing video content for online courses. It provides guidelines for the effective use of video-based content and will be of use to online course developers and vocational educators working to exploit web-based video technology.

It is divided into four sections:

## 1. Technical requirements

This section looks at both the equipment required for effective video production, and technical considerations necessary. There is an overview of each component required, with specific recommendations. Equipment covered includes camera, microphone, lighting, green screen, and editing suites. Guidance is also offered on the practical implications of equipment choice.

## 2. Production requirements

This section looks at the development of video content from a production perspective. It is meant as on overview of considerations required for the production of effective video and is based upon a journalistic approach to video-making. The section covers aspects of framing, use of zooming and panning, cutaway, light sources, recording, interviewing, continuity and storytelling.

## 3. Equality considerations

This section looks at some of the equality issues to be considered when designing and presenting video content. It looks specifically at visual impairment, hearing impairment, limited movement and photosensitivity, and offers practical guidance for course developers and designers.

## 4. General considerations

This section looks at when video content is appropriate to use within an online course. It gives general guidance to consider when designing and developing an online course.

# 1. Technical requirements

Ten years ago, using video as a teaching tool would have been both resource heavy and costly. In order to produce digital video you would have had to acquire specialist video editing software and hardware in order to produce digital video. Video cameras, such as Mini DV cameras, that utilised transfer of media via Firewire (the connection that has widely been associated with Digital Video Production) were also very costly, as this technology was relatively new.

Now, with the growing popularity of digital video, we find ourselves in a time where the ability to record and edit digital video has never been easier, given the huge range of hardware and software available. Many video cameras still boast the Firewire method of transfer but this is now not the only option. The recent introduction of solid-state video cameras enables the creation of video files that can easily be dragged straight onto the user's hard drive. There is also a larger variety of cameras available, at varying costs and specifications.

Another issue that would have been extremely problematic is that of internet connection speeds and bandwidth. Digital video files can be very large in size, although by today's standards a 10 megabyte file seems relatively small. Ten years ago with a dial-up modem this would have taken a long time to download and it's only in recent years that bandwidth limitations have become less common. It may have cost the end user a lot of money to download large video files, especially if they were paying for internet use by the minute.

Now broadband speeds are fast enough to stream or download large files, such as video, quickly to the user's computer. There are also fewer restrictions on download usage and bandwidth, which allows the user to view varying amounts of material online.

Using video within an online learning environment has allowed the opening up of a whole new dimension to learning and e-learning (electronic learning). Having videos available within the Virtual Learning Environment (VLE) will allow learners to have access to material at their own leisure, so that they may view these files as often as they like.

From a teaching and learning perspective the use of video content can have a positive impact. It can add a personal dimension to the course. Generally in any online course the opportunity to see and hear the tutor may be restricted. On some blended courses there may be the opportunity to meet the tutor, but on purely online-based courses this could be limited

to a photograph. Using videos for such things as course introductions or feedback, where the tutor is on camera and talking to the screen, gives you that personal dimension which can be so important.

Video can also be used to present instructional material, demonstrating the use of resources the tutor may feel necessary within the course. This is of course not restricted to purely instructional material, and could potentially be used for role playing, scene setting, live case studies, etc.

# Creating a video

## Personnel

A competent person or persons would be someone who understands the following:

- *The setting up of a video camera for filming*: with the image in focus and framed properly taking into consideration how the picture looks in relation to where the subject is situated.
- *Lighting considerations for filming*: the subject is well lit and can easily be seen. Not forgetting to consider if the background is lit properly. (See section on Green Screen later in this guide)
- *An understanding of audio equipment and use*: the audio levels are correctly set up when necessary. It is vital that the user can hear what is being spoken on camera. This will require the user to set up the audio levels on a video camera as well as set up any external microphones that are used and attached to the camera.
- *Video editing*: once all filming has taken place, the competent person will also be responsible for digitising and editing the video footage. This will require knowledge of video editing, and knowledge of the chosen software for the process. It is the competent person's job to take all the important information that has been filmed and turn it into a finished product. The competent person will also need to have knowledge of how to create any titles (text) on the screen or similar information.
- *An understanding of file formats for digital delivery*: it would also be important for the competent person to have an understanding of digital video file formats. Although, as mentioned in the introduction, modern computers have a lot of power to playback large files, there are also a number of considerations when it comes to the final video file you wish to use for distribution.

Please see the section on Digital Video Files & the Learner for more information on formats and recommendations.

The competent person's job is to ensure that all the technical areas are performed as seamlessly as possible. This is very important to help ensure that any time used to create a video from start to finish is utilised as productively as possible, minimising time and costs.

# Video camera

These vary in price and quality: in general terms you get what you pay for. The key elements to consider are:

- Audio capabilities
- Recording format
- Overall quality of camera equipment – as mentioned above this will be effected by cost

## Audio capabilities

It is important that attention is paid to what audio capabilities the camera has. Ideally, the camera should have an external audio connection. This will allow you to attach a directional microphone, which is important as it will help capture a very clear audio recording of the given subject.

Using the onboard microphone, which is found on a video camera, is not ideal for filming presentations. These microphones are normally stereo, and will therefore pick up a lot of ambient noise. The use of a directional microphone, attached via a cable to the cameras audio input, will pick up mainly what they are pointing at. The end result will be a clearer, more defined sound recording.

Please see the section on Microphones for more information and our recommendations.

## Recording format

It is suggested at the moment to focus on the two main types of recording medium: high definition video tape based (HDV) or memory based (Solid State).

HDV type cameras record high-definition digital video onto MiniDV tapes. These tapes can record up to one hour of high-definition video. Once the filming is complete, the footage must be transferred (often referred to as captured) to a computer and turned into the digital files

required for editing. This is done in real time using computer video editing software using the computer or camera Firewire interfaces (sometimes referred to as DV interface). See Software section for more information.

Solid State cameras record onto a memory stick or flash device unit that is attached to the video camera via the designated slot. Unlike tape-based systems, these cameras record the video directly as HDV files. This method will save time as once filming is complete, the video camera or memory stick is connected directly to the computer where the files can simply be dragged from the camera into the designated folder on the computer. This way you can start editing very quickly.

## Video camera options

As detailed earlier, there are numerous options available when considering a camera to use. The Sony HXR-NX5E is a solid state camera system. This camera would be described as "broadcast standard" due to the quality of work it can produce. It produces very high quality images and has full manual control. This allows the user to configure all aspects of the camera such as exposure, shutter speed, white balance and audio levels. It also boasts a large lens, which allows more light to enter the camera, giving both better quality and easier to use in poor lighting conditions. The audio quality, due to the high quality components, is very good. The camera has microphone input sockets for the attachment of external microphones, allowing the user to get the best quality audio signal from the presenter or subject. It also has the option to mount the external directional microphone directly onto the camera body, this helps eliminate the need for a microphone boom stand, where required.

The following cameras are good examples of what to look for, given their specifications and technical ability. They have been banded in a low to high cost bracket. It is also good practice to obtain further technical advice from the retailer on the product:

Low cost: Canon LEGRIA HF M41 – Solid State memory based recording, not full manual control, but does have an external audio mini jack socket.

Low/medium cost: Sony HVR-HD100E – HDV tape based camera, relative low cost, lower quality than more expensive models, due to less manual function ability and smaller lens size. Has a mini-jack attachment for microphones, has the option to mount the external directional microphone directly onto the camera body, this helps eliminate the need for a microphone boom stand, where required.

Medium/high cost: Panasonic AG-HMC41E – Solid state memory based recording, full manual controls and high quality XLR microphone audio inputs. It also has the option to mount the external directional microphone directly onto the camera body, this helps eliminate the need for a microphone boom stand, where required.

High cost: Sony HXR-NX5E – as used in the example detailed above.

## Microphone

When recording the presenter or the subject talking on camera, it is important to capture a good quality recording. This is best done with the use of a directional microphone, as opposed to using the onboard microphone found on the camera, as detailed earlier in the camera audio section.

A good quality microphone, using the correct cables, which will work with any video camera, is the Rode NTG2. This may require the purchase and use of a microphone boom stand so you can direct the microphone and place it closely to the subject. It is important to attach the microphone to a separate boom stand. If the microphone is mounted onto a camera you may be at risk of picking up noise should the camera be moved.

These microphones are very directional and pick up a clear audio signal of whatever source is in front of the microphone. They are also very light, if it needed to be attached to the body of the camera.

Again there are many alternatives to video camera microphones. These are just two options: Rode NTG-1 or Sony ECM-673.

When choosing a microphone, it is also advisable that you check the audio input connection on the camera. There are normally two types of connections that can be found, which may be dependent on the cost of the camera. More expensive cameras have a three-pinned microphone connection input (XLR). Cheaper models tend to have a 3.5mm mini jack input, the same connection found on devices such as iPods and headphones.

## Tripod

A tripod will ensure stability, as it is important to keep the camera steady during recording. Using the camera hand held, may result in an unsteady and less professional look to the video. Whilst the camera may appear light to hold at first, after a certain period of time it will start to feel heavier and may become uncomfortable, again affecting the quality of the video.

The selection of a tripod is important. Certain cameras are quite weighty and a less robust or cheaper tripod may start to tilt under the weight of the camera. This is an example of a good tripod – Libec TH650DV – as it provides great support for all small to medium sized video cameras.

## Green screen

Green screen is a technique used to replace the background of a piece of video with something else. Think *Star Wars*, where the subject can be filmed in one place and then made to look like they are somewhere else. This technique is fairly simple to achieve with the right hardware and software.

What you need to achieve this will be:

- An industry standard green backdrop is important. You must use the dedicated colour of green for full effect, also described as chroma key green.
- Lighting is very important, as you must light both the subject, such as a presenter, and the green backdrop separately. With poor lighting, you will find it very difficult to take away the green backdrop, also known as 'keying'. You do not want shadows from the subject to be cast onto the backdrop, this will also make things difficult when we come to 'key' away the backdrop.

There are various options available depending on the scale of your production, including the following setup, which can be viewed and purchased here: www.backdropsource.co.uk. This system can however be customized to suit individual needs, by acquiring more lighting and/or a larger screen.

How to utilise this technique: by using the Green Screen technique it is possible to replace the background behind the presenter with relevant images such as an academy or organisation colour scheme and logo.

This technique has also been utilised to film a signer for the hard of hearing. This then allows the user to place the signer onto the screen next to the presenter, where the signer will use sign language to translate what is being spoken on camera.

See Fig 1 below detailing how to set up the lights and screen for filming a presenter.

*Fig 1 – Lighting arrangement*



The benefits of using the Green Screen technique include enabling you to place images such as colour schemes and logos behind the subject. See Fig 4 below.

*Fig 2* – *Presenter with background using Green Screen*



Presenter is filmed against a green screen backdrop, backdrop then replaced using software with suitable colour schemes and logo

## Editing

The editing part of producing your video is the stage where you collate all the recorded footage from the video camera, keep the parts that you want or need and eliminate the parts of the video that you do not want. This is done by simply viewing the video files and either deleting the whole file or, where required, 'cutting' out parts of the video you do not want.

This software is also what will be used to export and turn the video you have just edited into the final file(s) that you will use for viewing. This is a very important step, which will be detailed in the section, Digital Video Files and the Learner**.**

In order to perform this job properly, the person responsible for this work has either got to have experience in using video editing software, or have training provided to allow them to develop these skills.

As detailed earlier, there are various software editing programs available. Some are free and come with the computer's operating system, such as Windows Movie Maker and Apple iMovie. Others are more high-end and professional such as Adobe Premier Pro CS6.

(www.adobe.com/uk/products/premiere.html), which can be purchased at a discount when used within education.

The use of Adobe Premier Pro CS6 is strongly recommended as this software has a number of features such as Green Screen keying and various export formats. See Digital Video Files and the Learner for more information.

## Computer hardware

There will be a need for a computer or laptop with a reasonable specification in order to run the necessary software. The requirements can vary, depending on the software you choose, but as video files can be substantial in size, you would need to ensure that there is adequate storage capacity within the hard disk. The amount of hard disk space available for the storing of files can vary greatly, but at least 500 gigabytes should be sufficient. Digital video files can be extremely large in size, and if you are doing substantial amounts of video work there is the potential to run out of disk space, should you not plan how much space you need in advance.

Windows PC systems or Apple computer systems are examples of generally appropriate and suitable choices, but you will need to consider the software requirements when buying a computer.

For example, if you where to use the Adobe Premier Pro CS6 software within your online course this would require the following recommended computer systems to operate efficiently:

## For a Windows PC:

- Intel® Core™2 Duo or AMD Phenom® II processor; 64-bit support required
- 64-bit operating system required: Microsoft® Windows Vista® Home Premium, Business, Ultimate, or Enterprise with Service Pack 1 or Windows® 7
- 2GB of RAM (4GB or more recommended)
- 10GB of available hard-disk space for installation; additional free space required during installation (cannot install on removable flash storage devices)
- 7200 RPM hard drive for editing compressed video formats; RAID 0 for uncompressed
- 1280x900 display with OpenGL 2.0-compatible graphics card

## For Apple Mac:

- Multicore Intel processor with 64-bit support
- Mac OS X v10.5.8 or v10.6.3 or higher; Mac OS X v10.6.3 or higher required for GPU-accelerated performance
- 2GB of RAM (4GB or more recommended)
- 10GB of available hard-disk space for installation; additional free space required during installation (cannot install on a volume that uses a case-sensitive file system or on removable flash storage devices)
- 7200 RPM hard drive for editing compressed video formats; RAID 0 for uncompressed
- 1280x900 display with OpenGL 2.0–compatible graphics card

## Digital video files and the learner

It is important when exporting the final video that consideration is given to the end user or learner in regards to file format accessibility. Some computers may not have the correct software needed to play certain files, such as Quicktime. It is usually good practice to both research and test various methods with course participants. This could prove to be burdensome if done on every course, but it may prove useful to get some feedback prior to making any final decisions. Identification of file formats that are most compatible will help to develop standards to be applied to all courses. Generally .WMV (window media) files tend to be a compatible format requiring little or no additional software installation.

When preparing to export the final video file, consideration should be given to the following factors:

- Length of video – how long does the video last? The longer the video file lasts, the larger the file size. As a rule of thumb, videos should last a maximum of 5 minutes. (see Production section)
- Frame size of video – this is the technical part, where we set the dimensions of our final video. The smaller the dimensions, the lower the file size, although should you make the frame size of the video too small, the quality of the video may make it hard to view. We aim to export files with dimensions of 384 pixels wide by 288 pixels high. This can be defined in the export settings of our software. If you consider that the full High Definition video that we start with is 1920 pixels wide by 1080 pixels high, this is a huge drop in file size.

- Video bit rate – this is really the area that allows us to adjust the overall quality of the video file. We do not use a set bit rate as we tend to vary our settings to acquire the desired end file size.

- Audio settings – you may also have the option to adjust what the settings of the audio are within the video file. If available, we would suggest setting the audio to MONO and using a bit rate of around 64kbs. This also helps to reduce the file size, but as we are only dealing with voice, using lower settings tends not to effect the overall quality.

- Video format – there are numerous digital video formats available online. Examples are: Quicktime movies, AVI files, Mpeg files, window media (wmv) files, flash files (.flv), real player files to name a few. Again this has to be a serious consideration, as some file formats will not play on some software media players. We have found that using a Window Media File (.wmv) will work on nearly all systems.

Playing the media files from the learner's end should be a very simple and straightforward process. You do not want the learner to either be waiting for a long time for the file to download or not be able to open the file at all.

Using this technology should enhance both the learning and the teaching experience, so once you have adhered to a few of our guidelines, you could be creating a new exciting experience that will allow learners to receive many different and valuable aspects to their courses, classes and overall learning experience.

# 2. Production requirements

The newest, most high specification video equipment in the world will not make a good video on its own. To produce a watchable, compelling video, you need to follow a few basic rules.

Some of those rules go back to the days of the silent black and white movies, some go back long before that. Others are much more recent: because people now watch video on their phones and computers, we have to take even more care with audio, to avoid camera shake and to make sure our videos are punchy and to the point.

## Picture framing or the rule of thirds

This principle divides the screen into nine equal squares with the red lines indicating where you should aim to place the points of interest. (See Fig 3 below)

*Fig 3* – *Picture framing*
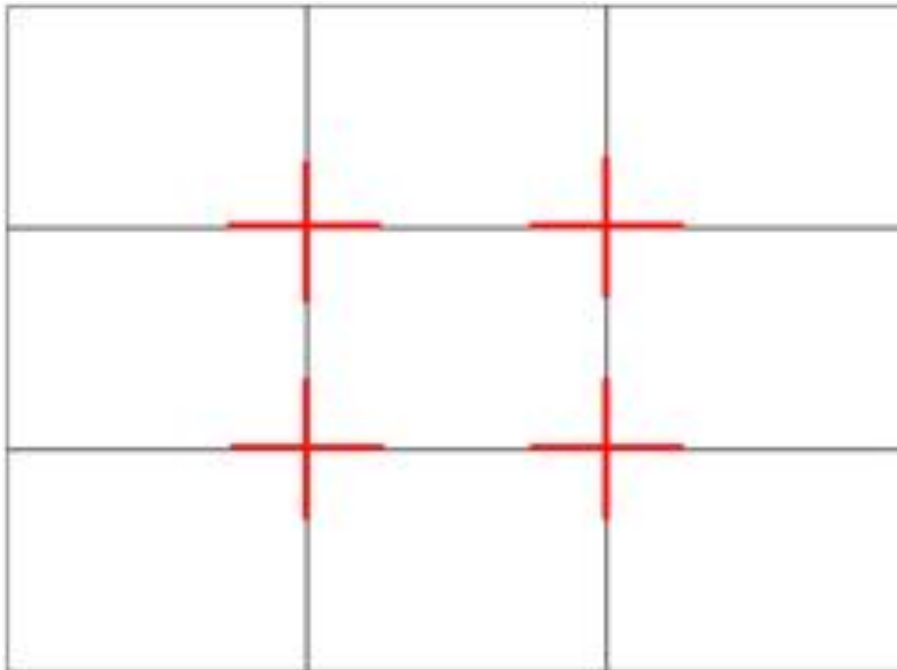


Here are some examples of people filmed at the 2011 TUC conference in London:

*Fig 4 – Two featured faces are each in central band of the image ©Union-News.co.uk*



*Fig 5 – Delegate's eye line should be slightly higher and slightly further to the left of screen ©Union-News.co.uk*

*Fig 6* – *Three figures spread across central portion of the frame and along imaginary upper left/lower right diagonal ©Union-News.co.uk*



## Keep the camera steady

Jerky, shaky camera movement will not make a film look exciting. It will make it infuriating to watch. So it is important to keep the camera as steady as possible. Broadcasters and film studios spend a fortune on camera booms, cranes, steadicams or even short rail tracks to avoid camera shake. We may have to rely on cheaper methods. As we discussed in the technical guide, a tripod is the most reliable, straightforward piece of kit. An alternative is a monopod.

If you do not have a tripod, you will have to improvise. Either way, you should look for something to hold the camera on, or in.

Can you rest the camera on a folded jacket, the camera case or a bag? Some guerrilla film-makers carry small beanbags or a hacky sack with them. This can be effective if there is no flat or even surface. Look around you before you start filming. Can you rest the camera on a desk, wall or railings, or can the user brace their arms against something solid?

Moving shots can give the video a really professional look, but they are very hard to pull off without expensive equipment. Not only that: you will almost certainly need at least one other person to help you.

However, if you want to follow someone walking along a street, or want to move the camera around a room or round a subject, there are ways of doing if effectively. You can sit the camera on the saddle of a bicycle and wheel the bike alongside the subject. A skateboard or wheelchair will serve the same purpose. Experiment and see if it works.

Finally in this section: horizons. This is not about holding the camera steady, but making sure it is level. Camera "tilt" is sometimes used to convey dramatic effect or to lengthen perspective, but you should begin by working on maintaining a natural horizon, otherwise lamp posts and the sides of buildings look like they have toppled over. If your tripod has a horizon marker, use it. Otherwise you may consider carrying a small spirit level in your camera bag.

## Do not zoom or pan

When people use a video camera for the first time, there is an almost overpowering urge to use the zoom function and to pan the camera from left to right. You should resist this at all costs. Why? Firstly: when you upload your video onto your Virtual Learning Environment, YouTube or another video sharing site, the compression rates will mean that any movement (zooms, pans, or just old fashioned camera shake) becomes a blur which will take up to two seconds to correct when someone is watching on a computer or phone. That is wasted time, which will make people switch off.

Secondly, the human eye doesn't have a zoom function. In fact, when we look around, we notice objects moving first, and then focus in on them. Fixing our focus on something – 'following' or 'pulling' focus is the technical term – is what our eyes do naturally. High-end cameras will allow you to follow focus manually, but it is a skill which takes considerable practice to use correctly.

For most of us, the rule of thumb is: frame the subject, and then shoot. Move the camera; frame the new subject from a new angle, and then shoot.

The guideline is: film a long shot, then a close-up. You can use the zoom function to get closer to a subject, but avoid using the zoom footage in your edited piece.

If you are filming a crowd, instead of panning the camera around the scene, it is often much more effective simply to film from higher up. So either hold the camera above your head (with both hands, to keep it steady) or climb onto a bench – even onto someone's shoulders, if they are able to support you. Professional news photographers often carry small collapsible step-ladders for this purpose. Whatever you do, be aware of your own safety and those around you. If you are working at height, check for any hazards before you step up.

## Cutaways

This is related to the previous section. When you are out with the camera, make a point of filming lots of cutaways. It will make the finished video much more interesting and will make it much easier to edit your interviews.

For example, when you are filming someone speaking, watch what their hands are doing. If they are holding a pen or a cup of coffee, film that for a couple of seconds. Film other people listening and reacting to what the speaker is saying. Film what people are looking at apart from the speaker – other members of the audience, or objects in the room. Film the main speaker talking to other people. One of the most basic rules is: film people talking to each other, not into the camera.

## Light sources

Video cameras work best when there is a lot of light, especially natural light, and especially at the beginning and towards the end of the day.

You should always aim to film with your back to the direction the light is coming from, so that the natural light is illuminating the subject. That way, you will avoid the problem of 'backlighting'. This happens if you film someone sitting in front of a window. The camera's light meter will adjust itself to the light from the window, which will almost certainly mean the person's face is very dark and their features are invisible.

You sometimes see this effect – exaggerated – in documentaries when the producer wants to hide the identity of an interviewee. That is not the effect you want to create.

So, before you start filming, ask one question: where is the natural light source? Then try to put yourself and the camera between the light source and your subject.

If you are filming inside, make the most of what natural light there is. Do not rely on electric lights and do your best to avoid strip lights. Be aware that lights may cast shadows over the subject you are filming. At the opposite end of the spectrum, do not over-expose the subject. Too much light will give everything a washed-out look. If the camera has aperture or light-adjustment features, the user should learn how to use them.

## Sound recording

The technical guide discusses the range of microphones you can attach to your camera. This section looks at how you can use the microphone to improve the overall sound of your film. An audience will often remain interested in a poorly shot film if the sound is good; but poorly recorded audio is a turn-off, even if what they are seeing is beautifully shot. So it is important to get this right.

After the camera lens and the microphone, the single piece of kit which is almost as important as the viewfinder is a set of headphones. You would never film without keeping an eye on what you were shooting. So why would you try to record sound without listening to it?

Always try to place the microphone as close to the sound source as possible, without causing distortion. If you have time, use headphones to test the sound levels before you begin filming. If the speaker's voice sounds like a badly tuned radio, you must either turn down your

recording level, or move the microphone a little further away. If the speaker sounds very quiet in your headphones, move the microphone closer, or turn up your recording levels.

## Interviews

Whether you are filming a meeting, or a protest, making an educational video or making a longer documentary, it is always best to record interviews separately, away from the main action, if you can.

When you are filming an interview, it can be helpful to get someone else to ask the questions and hold the microphone. This allows you to concentrate on framing the shot properly and checking that the sound levels are correct. It also means that your interviewee will be speaking "to someone", not "to the camera".

Before you begin, check that your camera lens is at the same level as the interviewee's eyes. Their face and shoulders should fill roughly one third of the screen. (See the "Rule of Thirds" section)

Position the interviewee so that their feet are pointing towards the camera but their head is turned so that they are speaking to the person asking the questions. This person should be standing beside the camera person, on their immediate left- or right-hand shoulder.

Why does this look better in a video? It just does. Film-makers have been doing it since the 1920s and people have got used to seeing things this way. So it is good to stick to the rule, unless you have a good reason for breaking it. Remember also that you may want to leave plenty of space in the frame for a video box of a signer (see Equality Considerations, below). Placing your interviewee to one side of the frame allows for this.

Before you begin asking questions, ask the interviewee to give their name and, where appropriate, their job title, or a brief reason why they are being interviewed. It is possible someone else may be editing the film and they will need this information to identify the interview.

If you are going to talk to more than one person, remember to frame each interview so that the speaker is on different sides of the screen, either speaking from the left hand side or from the right. This helps make the final video look more balanced.

Give some careful thought to what is in the background of the interview. Make sure the subject is at least six feet away from any walls behind them, otherwise they will cast a

shadow on the wall. Make the background interesting (not a blank wall), but not distracting (not too much movement or action going on).

If you have time, also film some "noddy shots". These are cutaway shots of the interviewer listening to what the subject is saying, or the subject listening to the interviewer. Here are two examples:

*Fig 8* – *Owen Jones speaking on ©Union-News.co.uk*



*Fig 9* – *Owen Jones listening to questions on ©Union-News.co.uk*

(Remember to follow the 180 degree rule – see below)

When it comes to asking questions in the interview, keep your questions short – remember it is the interviewee that people want to hear, not you. Do not ask a question which is likely to have a "yes" or "no" answer. Allow people to expand on what they are saying. Most of all: listen to what the interviewee is saying and always have a follow-up question at the ready.

At the end of the interview, take a moment to check your recorded footage. Is the subject correctly framed? Are the audio levels good? If not, now is the time to try to re-record any portions of the interview if you are not happy with them. Do not feel embarrassed about asking your subject to stay on for a re-take. It is better to ask now, rather than to have to recall them several days later.

These are general rules and tips. Broadcast journalists and camera crews can spend years training to get these things right. It is better to learn the rules first before you try to experiment with breaking them.

## Continuity and crossing the line

If you are making the video over several days, take care not to confuse the audience by videoing the same person in the same location wearing different clothes, or if they have changed their hair in some way, for example. If they are dressed differently, you will need to find some way of explaining the change, or make it clear that time has moved on.

If videoing an interview outside in the pouring rain, but the shower has stopped and the sun is out by the end of the interview, you may need to have a cutaway shot of – for example – someone folding an umbrella or taking off their coat to explain the change.

"Don't cross the line" or the "180 Degrees rule" sounds a little technical, but it is worth remembering.

When you are watching a film in the cinema, the action in front of you will have a certain "direction" to it. The camera is acting as the viewer in the scene playing out in front of them. If you "cross the line" it has the effect of moving the viewer behind the cinema screen.

Once it is established where a subject is located in relation to the camera, the user should not allow the camera to cross that imaginary 180 degree line across the screen.

**Fig 10** – *180 degree rule*
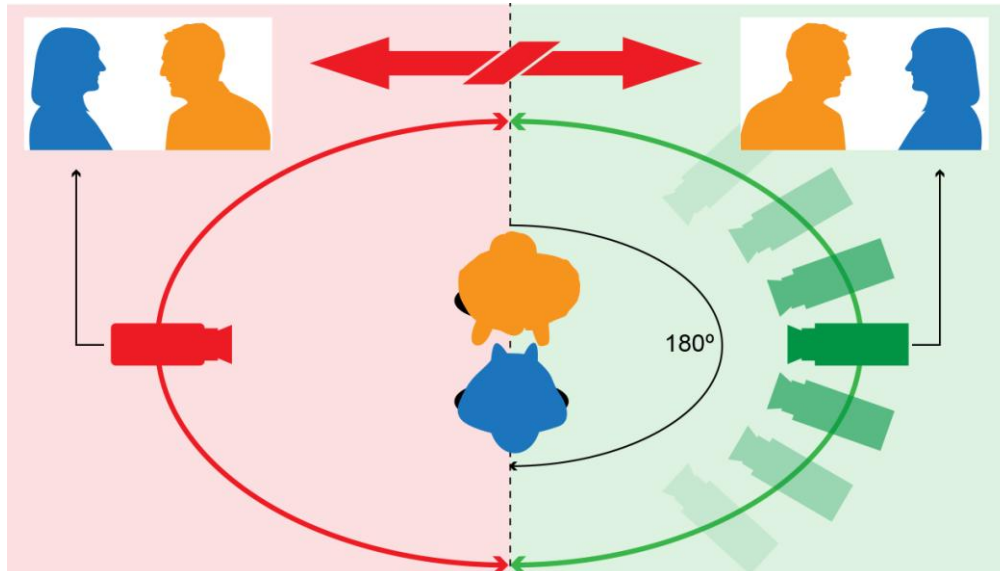


In your video, make sure that each person is on the same "side" of the screen whenever they appear. If they exit a shot from the left, they should come back into shot from the left hand side, otherwise it can appear disorientating.

Here's another illustration. You can angle the camera in any of the three points in the diagram. But...

**Fig 11** – *Camera points*
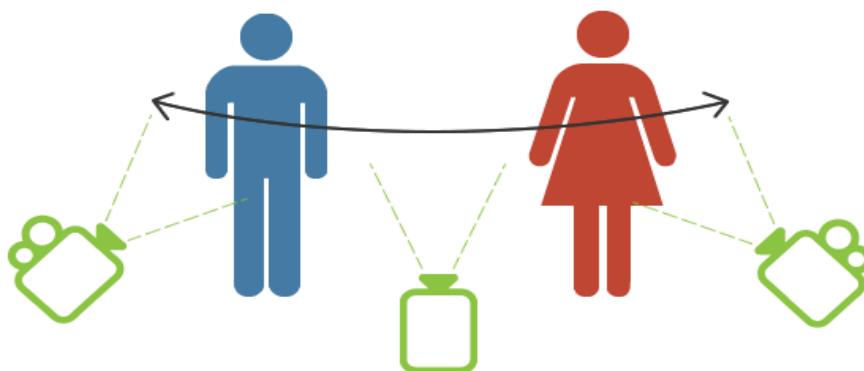


You can only "cross the line" if you actually move the camera and show the camera moving in the final film, otherwise people will not understand why people appear in a different place.

This sequence from the Ingmar Bergman's film, "The Seventh Seal" illustrates the point:



The camera is over the right shoulder (the shore side) of Death



The camera is over the left shoulder (shore side) of the Knight



The camera is on the shore side of the chess board.

Imagine if the director had suddenly switched, to film with the sea behind the camera. The Knight and Death would be on the "wrong" sides of the screen.

## Storytelling

This is the most important rule of all, and possibly the hardest to get right.

Do not rely on someone speaking to an audience at the other end of the room to provide the main source of material for your video. A fixed camera filming a single speaker for half an hour makes a boring film, even if they are a fantastic speaker, talking about a fascinating subject. These things never look anything like as interesting in a video as they do if you are there at the time. That is because they will pause, get diverted or lose their notes and because members of the audience will never spend the whole time looking only at the speaker's face. They will look around the room, watch the reactions of other members of the audience, notice the speaker playing with their watch, or adding notes, switching from one sheet of paper to another.

So, get in as close as possible during the meeting and film all those cutaways. Film some of the main speech and then call the speaker aside later (better still, set it up beforehand) and ask them to repeat or expand on the main points in an interview.

## Worked example

These videos may help to illustrate some of the points made in this manual.

This is a finished film, looking at recent protests by trade unionists from Unite. The protest is by electricians about drastic threats to site safety levels and electricians' pay. It includes several cutaways, different camera angles and light sources together with a combination of interview clips, "noddy shots" and natural sound:

www.youtube.com/watch?v=dGWNFXfinF8

This is one of the un-edited interviews used in the film (and a screen-shot of the editing timeline below) to show how a clip is selected from an interview then tidied up – or "de-ummed" – to take out hesitations and fit better with the overall thread of the film:

www.youtube.com/watch?v=TvgwUGpWoI4

Here is an image from the editing software, Final Cut Pro, where the Unite Organiser, Steve Syson is being edited. You will notice that the original interview has Steve in the centre of the frame, so as well as cutting the relevant clip for the finished film, it was also necessary to "reframe" the interview during the edit, to place him slightly off-centre to improve the balance of the image.

*Fig 12* – *re-aligning interviewee during editing*
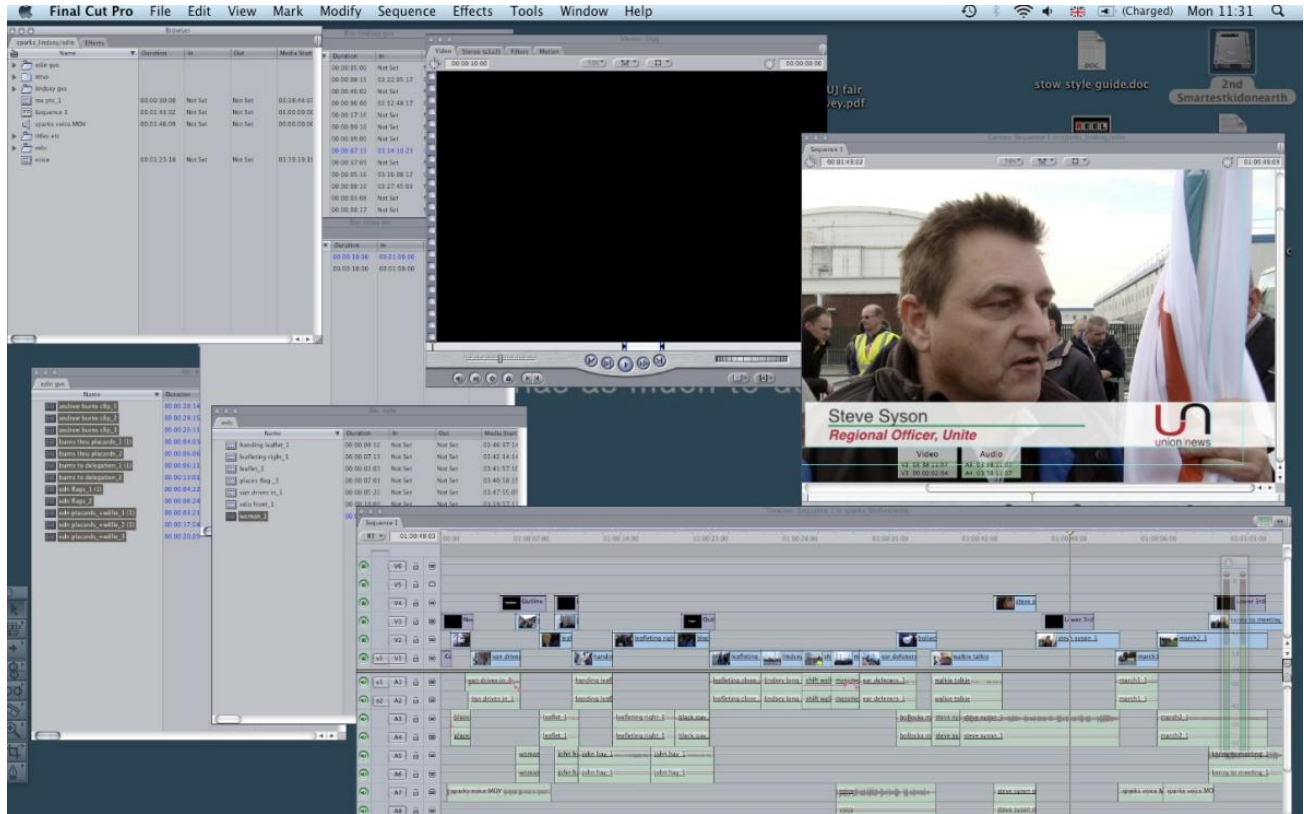


## Duration

There are no hard and fast rules for the length of your video, but the craft of good story-telling should be your guide.

How long should a video be? As short as it takes to tell the story; as long as can sustain the viewer's interest; but always: as lively and as well-paced as you can make it.

A broadcast news report will normally be around 1' 30 sec – 1' 45 sec in duration, containing two or three interview clips and a range of set-up shots. A featured interview, including cutaways, "noddy shots", graphics or short animations may run to five minutes or more. A longer report, running for 15 minutes or longer, will require many interviews, perhaps some archive footage, extensive use of graphics or animation and careful scriptwriting to keep the viewer watching.

Always bear in mind that just because you are fascinated by a subject does not mean that the viewer will be. The purpose of your video is to show the viewer why this subject is interesting.

# 3. Equality considerations

Using video content within online courses does of course require consideration of the disability issues raised. These include:

- visual impairment
- deafness and hearing loss
- limited movement
- photosensitivity
- practical support

## Visual impairment

Recognition that not all online participants will have full visual capabilities is important when determining the way that video will be used on a course. This is a key component of the course design process in ensuring that there is not a reliance on video content for full course participation. It also demonstrates the importance of the quality of the video recording from both a visual and auditory perspective. Clear framing and steady visual graphics are important, and the equipment used in the process is important. Any flickering of the picture, or unsteady movement (often related to hand-held cameras) can have a detrimental effect on the user.

## Hearing impairment

*Fig 13* – *Presenter with signer*



It is also important to ensure that any video content used on online courses incorporates alternatives or additions to auditory content. The use of sign language support incorporated within the video can help ensure that the video content is accessible to those with a hearing impairment who are also able to understand sign language. (see Fig 1 below)

In addition, consideration should be given to the inclusion of subtitles of the spoken word. This also helps to ensure that the content of the video is more accessible. (see Fig 2 below)

**Fig 14** – *Presenter with subtitles*



It is my responsibility to ensure that the offer of training for union reps in Scotland is effective

The use of both sign language support and/or subtitles incorporated into the video content will require both technical expertise and quality editing equipment.

## Limited movement

Any use of video content should be accessible directly by using only the keyboard. This will support those course participants who have limited physical movement, and rely upon the keyboard for all navigation.

## Photosensitivity

Making pages operate in predictable ways, with non-flickering visual content, and with limited dramatic scene changes, helps to support those course participants with photosensitivity issues. Video content should not be designed in ways known to cause seizures.

## Practical support

All decisions made towards providing an inclusive provision of technology, whether specifically oriented towards disabled people or more widely towards good inclusive practice,

need to involve disabled people if there will be an effect upon them. The important thing is to consider disabled users when course videos and content are being developed, and to ensure that systems are commissioned so that accessibility is built into the fabric of the course. A simple approach to take is discussion with the course participants about their specific needs.

The following are other important features to consider if accessibility is to be ensured:

- Video clips must be a decent size with good colour, brightness and frame rate. Small, dark videos that pixelate at full screen add little to learning.

- The user must be able to stop and start the video as required. A video without user controls is less accessible for all users.

- The user must be able to operate the controls (stop, play, rewind etc.) using only the keyboard because some users have difficulty operating a mouse.

- The control buttons should be labelled so that their function is announced to a screen reader user. Any changes of state should also be announced to a screen reader, for example the 'play' button should re-identify as 'pause' when it is in the pause state.

The following video advice and guidance sheet may be of use: www.jisctechdis.ac.uk/techdis/resources/detail/learnersmatter/Video_AGS

# 4. General considerations

This manual takes you through the technical and production elements of video development. However it is important to consider when the use of video is most appropriate in an online course. There is a danger of using video for video's sake, without any real thought about the impact or otherwise it will have on the course.

There are certain elements of a course that lend themselves well to the use of video:

- at the beginning of a course
- at the end of a course
- activity introduction/topic content
- autor feedback
- case study scenarios.

## At the beginning of a course

At the beginning of a course it can be useful to include a video of the tutor introducing themselves and giving an overview of the course content etc. This gives the course participants an opportunity to 'see' the tutor which can have a positive impact, as the participants have a human presence on the course as opposed to an e-person. It is also an excellent way of giving quite detailed course information that can often be 'lost' if given in purely text form.

## At the end of a course

There can be a real benefit to the use of an 'end of course' video, summing up the achievements of the course and guiding course participants on their next steps. It is an opportunity to summarise some of the key learning points of the course, consolidate action points, and support the future learning of the participants.

## Activity introduction/topic content

There will be some activities that require a detailed introduction or contextualisation. This can be done in purely text form, however this does not always hold the attention of the participants, and it can prove difficult to cover all points effectively. The use of a video with either the tutor speaking, relevant picture content, or a combination of both can prove to be a very effective way of communicating relevant information.

## Tutor feedback

Generally after an activity the tutor will want to summarise the key learning points or reflect on some of the points made by the participants. On an online course this can prove to be quite detailed and complex with a number of issues needing to be covered. A video can be a useful way to communicate this information in an accessible way. It is also an opportunity to personalise the feedback, allowing the tutor to comment on individual or collective responses.

## Case study scenarios

Video can be an effective way of introducing course case studies around topics such as equality issues, workplace issues, legal scenarios etc. The use of video can break up the course and add a different dimension. Variety of resources is recognised as being a real stimulus for course participants.

Ultimately, the key thing to consider when determining if video content would be an appropriate tool to use in any given situation, is whether it gives 'additionality' to the course. Does it improve the course? Does it help the learning and teaching process? Is this the best way of introducing the information? Is there a better way of doing it? Am I using video for the sake of using it?