



## *#09 Video capture & editing*

### *How is video used in research?*

Researchers are increasingly using mixed media and audio-visual methods in their work, both as means of data capture and as means of communicating research outcomes. Video provides a rich record of situations whether experimental, interview-based or in the field. Nuances can be captured, reviewed and analysed on camera that would have been lost in the immediacy of the situation.

Video also allows researchers to focus on the task at hand without worrying that they will miss important data. With good quality capture becoming possible on low-cost equipment and with editing software becoming accessible to users without specialist training, video is often a first option for data capture. Video is also a powerful medium for communication, and as research impact becomes more critical as a measure of success, researchers are finding that video can deliver both audience interest and scholarly credibility.

### *How could video help with your research?*

Video might be used in research to:

- ✦ Connect globally with people who share your research interests
- ✦ Make your research more visible to stakeholders, funders and anyone with an interest
- ✦ Capture data for later analysis and review, e.g. by people not present at the event itself
- ✦ Capture data for computer-based analysis
- ✦ Capture events that would have been difficult to see otherwise, e.g. because they are fleeting, rare, dangerous to view directly etc.
- ✦ Free the researcher to focus on another role such as carrying out an experiment or interviewing a participant
- ✦ Record data accurately in a way that can be evidenced and reproduced with credibility
- ✦ Capture evidence of the research process, even if this does not constitute research data, e.g. for research communication, personal reflection and development etc..

In communication, researchers have found video useful to:

- ✦ Engage an audience, e.g. conveying the enthusiasm of stakeholders, or the vividness of situations
- ✦ Provide a clear record of the research process to aid understanding and reproducibility
- ✦ Communicate complex information e.g. through data visualisations and animations
- ✦ Bring research situations into the presenting space in a rich and vivid way
- ✦ Provide a lasting output, and one that could be useful as part of a personal digital portfolio.

Whilst the use of video undoubtedly offers benefits for these research activities, many researchers find video capture and (especially) editing and analysis to be time consuming, especially at first. Some pre-planning and thought can help save time in the long run.

## Before you start filming - some key questions

Before you start capturing content, it is important to ask yourself:

- ⤴ **Why am I capturing video?** Different objectives will require different camera set-up. For example, if you were researching body language you might require a whole-body shot. In other cases, interviews with research stakeholders for communication or funding evaluation purposes might employ a closer shot.
- ⤴ **What will I do with it?** Are you using video as an aide-memoire for later reflection, as part of your data analysis, or to illustrate aspects of your research process when presenting at a conference? Video designed for computer-based analysis needs careful preparation depending on the programme being used. Video designed for public viewing will require different editing, especially if it will not be personally introduced.
- ⤴ **Have I consent for this use?** Your research method will require ethical approval if you are capturing people on video, unless they are being used in establishing shots where they are not individually recognisable. In situations where people are potentially vulnerable, for example medical patients, this process is necessarily complex and can require approval from several different bodies. In other situations, approval from a university committee may be required. The main principles of consent is that it should be informed - i.e. you must communicate clearly how the video will be used - and it should be possible for consent to be withdrawn at any time without any consequence to that individual. Different consent is required to capture and analyse video, and to show video publicly as part of a research communication exercise. A model consent form is available from the [Web2Rights](#) project, but this is an issue on which you should always get advice relevant to your specific research area.
- ⤴ **Ethics.** Carrying out filming as part of your research may require ethical clearance from the appropriate Ethics Committee. Ask your research supervisor about this process.
- ⤴ **How do I keep this data secure?** If you are filming for any research purpose requiring consent, you will need to consider data security. If you are capturing data in a hostile political or cultural climate, or for a high-stakes project in a valuable area of research, data security will likely be imperative. Most institutions have clear policies on data security and a research environment designed to support different levels and kinds of security: on top of these facilities, you will need to establish secure practices collaboratively as a research team. For less critical data, cloud services such as Dropbox can be useful. When storing and sharing video data bear in mind that digital video can produce large files - especially if you are shooting in high-definition.
- ⤴ **Data protection.** There are also legal problems concerning data storage. In the UK, data storage needs to comply with the Data Protection Act. Therefore, when carrying out research that involves sensitive data, the researcher has to make sure that the platforms they use comply with UK and European legislation. The best solution may be to use a platform that stores data on your institution's servers.
- ⤴ **Preparation is better than post-production!** Whilst it is possible to enhance and even transform your original footage using special effects, this will require time as well as access and proficiency with specialist software. Much better to capture the shots you need in the first place. In many data capture situations, especially inter-personal settings, audio is actually more critical than video quality. Choosing a quiet setting for filming and using good quality external microphones (not necessarily the one built into the video camera!) will save much trouble later, as it is very tricky to isolate and enhance sound/speech patterns in post-production.

## Interview techniques

There are many topic-specific interview techniques depending on the kind of interview you are conducting. When using video, the following additional points should be considered:

- ⤴ Allow extra time to put the interviewee at ease with the camera and video set-up
- ⤴ A tripod (if available) allows for much steadier focus and a wider variety of shots, but consider this against the extra weight and set-up/take-down time
- ⤴ Set up your shot to capture what you need. Is the context important e.g. background, signs of the person's role (e.g. books to indicate an academic setting, equipment to show they are in an experimental situation). How much of their body is needed? Does there need to be consistency between subjects so they are in roughly similar shot, or is variety important?

- ⤴ Don't zoom in too far – it's the sign of an amateur! In a typical interview set-up the mouth should be about half-way up the screen. The camera should be at about eye level with the interviewee looking at the interviewer (across the line of the shot) rather than at the camera
- ⤴ Sound capture is usually more important than image and can be harder to get right because consumer end video cameras tend to have poor quality microphones. Always do a sound check and consider a back-up audio recorder
- ⤴ Listen actively, smile and nod, and be (silently) enthusiastic and encouraging. You may have to be more exaggerated in your facial expressions as you will not be able to give verbal encouragement
- ⤴ If you want to produce a 'talking head' video with the interview questions not included, encourage interviewees to incorporate the question into the answer
- ⤴ Segment your questions/answers to support cutting later.

## Editing

Numerous video editing tools are available, some of which may be provided by your institution. Each has varying functions according produced for a different purpose.

Popular Software	Capabilities/comments
Windows Movie Maker (Windows XP/Vista/7)	<ul style="list-style-type: none"> <li>• Available bundled with Windows operating systems</li> <li>• Basic functionality, although quite easy to get started.</li> <li>• Non Windows 7 versions can only deal with limited video formats in standard definition.</li> <li>• Lack of some post-beginner features can be frustrating if more complex editing required</li> </ul>
iMovie (Macs)	<ul style="list-style-type: none"> <li>• Available bundled with Apple Mac operating systems</li> <li>• Easy to use if familiar with Apple products</li> <li>• Good range of format options and outputs</li> </ul>
<a href="#">YouTube Editor</a>	<ul style="list-style-type: none"> <li>• Free, online resource. Available through any computer with a browser</li> <li>• All raw and data stored on YouTube servers, allowing editing to be conducted across multiple computers.</li> <li>• Fairly new platform, thus not support are not as developed as other options</li> <li>• Requires a reliable Internet connection and reasonably up-to-date browser that can handle the latest HTML5 capabilities.</li> </ul>
<a href="#">Adobe Premiere Pro</a> (PC/Mac)	<ul style="list-style-type: none"> <li>• Professional software. Official licence expensive.</li> <li>• Some PGRs report the program being unintuitive at first</li> </ul>
<a href="#">Final Cut Pro</a> (PC/Mac)	<ul style="list-style-type: none"> <li>• Part of the family of high-end professional software</li> <li>• Steeper learning curve although many functions available</li> <li>• Computers available in the Library Multimedia Suite for student use</li> </ul>
<p><b>Many other free and commercial editing programs are available.</b>  A full online table of comparison is available: <a href="http://bit.ly/HZdPYi">http://bit.ly/HZdPYi</a></p>	

## Sharing video and embedding video into presentations

If you have permission to make video content public and want to make an impact, it makes sense to post it on a video sharing site such as [YouTube](#), [Vimeo](#) or [BlipTV](#). Although these are not scholarly sites, you can communicate about your videos in scholarly forums, both online (e.g. using Twitter or blog posts) and offline (e.g. embedding your video into a conference presentation). iTunesU can also be used to share video, though this usually requires your institution to have an iTunesU account.

Most presentation software allows you to insert a wide range of video file types but not all will play equally well with the hardware/software set-up where you are presenting. You may need to experiment, but generally videos are best incorporated in one of the following file formats:

AVI – Highest quality video, biggest file size

MPG – Lower quality video, smaller file size

WMV – Medium to high quality video, file size in between AVI and MPG

If you are using PowerPoint, the options you need are situated in the 'insert' menu under 'movies and sound'. If you are using Prezi, insert > file; with keynote, insert > choose.

### **More Help**

Your chosen software will have a Help menu built in but probably also has online forums where researchers and other users share questions and advice about both basic and advanced uses.

Resources from JISC Media on planning, recording and managing digital video:

<http://www.jiscdigitalmedia.ac.uk/movingimages/>

Briefing paper on using video for research - specifically focused on the social sciences:

<http://mode.ioe.ac.uk/2012/03/17/an-introduction-to-using-video-for-research/>

A simple but clear resource on using video to communicate about agricultural research:

<http://www.ciard.net/pathways/using-video-communicate-research-outputs>

### **Additional information**

As a researcher you should be aware of your responsibilities with respect to, amongst other things, IPR, research ethics, information security, data protection and mobile computing. If you need advice please see the Plymouth University [Research Degrees Handbook](#) and ask your research supervisor for guidance.