

Creating videos for learning and teaching at UWA

Portions of this guide were originally created by Deakin University's Learning Futures TeachAssist Team ([Using audio and video materials in teaching](#), 2014) and has been adapted with permission.

In this guide

This guide presents advice on the stages of video creation:

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1. Purpose

The most critical part of producing effective media is defining the purpose, scope, and approach.

First decide why you're creating a video. Before anything else, figure out the outcome. What is its purpose? To explain a complex concept? To bring different perspectives to the unit? To welcome and support learners? What do you want the viewers to know or do after watching?

Then brainstorm: what type of video will accomplish this purpose? What is it that you want to produce? Look at similar resources to gain ideas and inspiration. Decide what you like and dislike. Why? How could you improve on them for your purpose? Make a note of your decisions.

It's also important to consider the resources you'll need to produce the kind of video you have in mind. It's all right to be creative, but remember that solid learning design is more important than trying to replicate professional-level productions. Some of the education videos that can be found online were supported specialised video production/multimedia development resources that may be outside the scope of your project.

Once you have determined your purpose, general approach, and resources, it's time to start planning.

1. Planning

The following are preparation tasks when planning a video:

<ul style="list-style-type: none"> • Will video work for the purpose? • What style of video? • How does it fit with other learning components? <p>Purpose</p> 	<ul style="list-style-type: none"> • Prepare a structure • Write a script • Outline screen shots • Is it a suitable length? (usually under 10 minutes) <p>Storyboard</p> 	<ul style="list-style-type: none"> • Check your camera, tripod, lights, • Do you need a microphone? • Software? • Props? <p>Equipment</p> 	<ul style="list-style-type: none"> • Where? Avoid background noise? • Ambient light? • Who is going to be recorded? • When? <p>Location</p> 
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(Source: Deakin University, 2013)

Design

Have a look at the guides on the Centre for Education Futures website for more advice on video design approaches.

Script

You may prefer to speak from brief notes or an outline rather than a script, but keep in mind that a full script will be useful later when creating or editing subtitles for the video. For accessibility, you must provide subtitles and/or a transcript for all videos. More information about accessibility is on the Centre for Education Futures website.

Length

Keep it short, interesting and to the point. Two to five minutes (ten minutes maximum) is usually the most effective. 'Talking head' recordings need to be short and focused (1–3 minutes maximum) or you'll find that the audience will lose interest. If your recording has multiple foci, consider making separate recordings for each component.

Run through the script, speaking aloud to get a feel for the words and an idea of its length. If you are recording audio for a voiceover narration, you can estimate the average speaking speed of 140-150 words per minute (your exact rate will vary!).

Location and lighting

Once you've worked out what you want to say, find a suitable location for the recording. Ensure that there is no background noise and that you won't be interrupted.

Outdoors

- Try for a day sunny, blue-sky day if possible
- The sun should face the person being filmed, rather than being behind them
- Use a reflector to enhance outdoor lighting if possible

Indoors

- Avoid plain white walls
- Avoid mixed light situations where possible (e.g. both indoor lighting and sunlight)
- Avoid being backlit by a window

If you are planning to make a recording at your desk, check what your viewer will be looking at. Make sure there is nothing distracting in the background and that the lighting is ok; your face shouldn't be too dark or too bright. Play around with turning lights on/off to get the best picture. Experiment with your sitting position. Don't be afraid to sit close so viewers can see your face clearly.

Personal Presentation on Camera

Speak clearly, loudly, and maintain your enthusiasm! It can help to imagine yourself explaining your material to an attentive listener.

Eye contact

Speak to the camera lens as you would during a conversation. Viewers will be distracted if you seem to be making eye contact with someone off-camera.

What to wear

- Solid light colours are best
- Avoid solid red, stark white, and black. Don't wear green if you're filming in front of a green screen.
- Avoid small patterns like thin stripes, herringbone, etc.
- Avoid distracting items like logos or words on clothing, large jewellery (which also could make noise), bright ties

Watch out for distracting mannerisms

Review recordings of yourself or have a colleague give feedback. Watch out for gestures such as touching your hair or glasses or moving your hands excessively. Repetitive gestures can be annoying to viewers. Also try to avoid overusing distinctive words or phrases that will be distracting if repeatedly used in a video (Rozakis, 2016).

Permissions and copyright

Prepare any media that you want to include during this initial planning stage. If you are including photographs, images, film clips or music, you must comply with copyright laws that govern their use. Consult our guide on the Centre for Education Futures website on 'using others materials' for more information

All individuals appearing in your video should sign a UWA [release form](#).

2. Video production

The recording stage is the *production* phase of a video project. This is where you execute your plan.

To begin production, refer to your storyboard or planning notes and decide which parts to do first. The order may depend on many factors including weather or availability of equipment.

The production phase can involve several takes of a recording until you get the right outcome.

Set-up

- Check sound and lighting
- Minimise noise, pans, tilts, zooms
- Practice until you can operate your camera smoothly

Practice your script and any camera movements before you start recording. Minimise unnecessary camera movements and make sure your shot is set up properly. During the process don't be put off if you make a mistake; you can always do another take.

Check your shot

Many small cameras and devices don't have the ability to focus. This means that everything in the shot will be noticed. Be careful to ensure that the image you capture is free of distracting, inappropriate or confusing elements.

Try to keep relevant objects and people in the frame large. If possible, try to shoot closer rather than further from objects. Keep your camera upright and steady. Rotated images will generally look at best confusing, and at worst clumsy.

Hold the camera or device steady

If possible, use a tripod. Otherwise, place the camera on a flat, stable surface such as a table, the top of a chair, or a wall (for static shots), or find a way to brace yourself and use both hands to hold the camera steady. If you are using a phone or tablet for recording, it's a good idea to use something to steady your device.

Hold the camera or device close to your body rather than too far out in front. Not only will you hold the camera more steadily, but you will restrict your ability to unconsciously add camera movement and your arms won't get tired as quickly.

Check your sound

Remember that sound quality is key. A video with blurry visual is watchable as long as the sound is ok. The reverse cannot be said.

Set up your recording equipment (often an external microphone or headset), and then practice recording your voice or other speakers' voices to ensure it is clear and the message comes across clearly. If you are the presenter, speak in your normal voice, and try neither to rush nor to speak too slowly – just act naturally!

In many cases, the optimum camera position for a good image (far enough back to see everything) is not the optimum position for good sound (very close up).

There are a few things you can do to improve the sound:

- Use an external microphone if possible
- Try to shoot closer to the subject
- Use a quiet room that doesn't have a lot of echo
- Make sure that the only person talking during the recording is the person you want to hear
- Use the audio level monitor built into your video recording app if you have one. The audio level monitor should not go into the red zone (upper levels).

Eliminate or reduce background sounds in the room, including fans, printers, people talking, etc.

Check the lighting

If possible, give your subject more light than there is in the background. A subject appearing in the shot with a much brighter object such as a bright window or a projected image on a screen will appear as a silhouette. A subject lit much the same as the background will not stand out.

Experiment with the lighting before you shoot. Try turning off lights or closing blinds and curtains to improve the image quality.

Preparing for a screencast on your computer

Make sure any visuals or other files are ready to use. Ensure you know which application windows to show, and resize the windows in preparation for the recording.

Get comfortable with any keyboard shortcuts you may wish to use, e.g., know where the pause button is. Run through the presentation to check that it follows a logical order.

Close any unused applications.

Recording

There are many options for recording. See Section 5 below for more details.

Videos are usually shot in 16:9 widescreen, and typically the dimensions are 1280 x 720 pixels.

When you're ready, press record, leave a few seconds 'lead-in', then begin speaking. When you have finished, leave 5 to 10 seconds of silence, then press stop. If you are unhappy with your first take, you can always do another.

Once you've finished your recording, download the files to your computer (and back them up) as soon as possible.

Work through your storyboard or planning notes until you have completed all the recordings. Once you have wrapped up your recordings, it's time to edit and publish your work.

Editing and exporting

Post-production begins when the camera stops rolling and you begin editing your work. It is a creative process where all the various parts of your production come together into one clear, concise product. This phase can be time consuming, as you need to go through all your material and identify which is best for the finished product. During this process you will need to cut out the parts you don't want, and decide the best way to put the remaining material together. Use your storyboard or planning notes to guide your editing process. Some suggestions for software for recording and editing are in Section 5 of this document.

If you are using on-screen text, check the legibility of size and colours. A sans-serif font such as Arial should be used.

In terms of resolution, for most purposes, you should record and export your video in high definition (HD) 720p. Note that increasing the resolution from 480p to 720p to 1080p to 4K exponentially increases the file size without necessarily resulting in an exponential increase in noticeable quality. Larger file sizes mean longer rendering size and longer file transfer times. Resolution of 1080p and above should be reserved for when quality is important for conveying meaning through high quality graphics.

The most widely accepted format for uploading your video to the web is currently MPEG 4 (.mp4). YouTube, for example, accepts the following formats:

- WebM files – Vp8 video codec and Vorbis Audio codecs
- .MPEG4, 3GPP and MOV files – typically supporting h264, mpeg4 video codecs, and AAC audio codec
- .AVI – many cameras output this format – typically the video codec is MJPEG and audio is PCM
- .MPEGPS – typically supporting MPEG2 video codec and MP2 audio

- .WMV
- .FLV – Adobe-FLV1 video codec, MP3 audio

3. Storage and distribution

Once the editing is complete, you can make your video available to others.

Storage

The first step is to publishing it in an online video storage service, such as UWA’s [Lecture Capture System](#) (LCS) or a site like YouTube.

Table 1 (below) shows some services that can host your finished media. Search for the name of the service in a web search engine to find out more.

Publishing platform	Description
 YouTube	Video-sharing service. Part of Google accounts.
 Vimeo	Video-sharing service.
 SoundCloud	Audio publishing platform.

These platforms are free to use but require account registration. Instructions for creating an account and uploading video files are available on the sites’ own ‘help’ sections. Note that if the service automatically creates subtitles (closed captioning), you will need to edit them to ensure that the words are recorded accurately, and/or provide your own transcript.

On YouTube, if you want the video accessed only by students in your unit change the video settings from ‘Public’ to ‘Unlisted’ in YouTube’s ‘Video Manager’.

If you are collaborating with others on creating video and audio files, note that often media files are too large to share via email. Other methods for sharing files include Google Drive, OneDrive, shared network drives in your School, and CloudStor, a secure way to share large files online. [More information](#) is available from the Library.

Distribution

The next step is to distribute the video to students or other viewers. One way to do this is to simply provide a web link to the students, usually in your LMS unit, where they can view the video.

Services like YouTube also provide embed codes that allow you to embed the video to be played directly in an item in your LMS unit.

4. Options for recording

Option 1: Tips for recording using a mobile device

You can use a smartphone or tablet to record a video. These devices have microphones are often high enough quality. There are a variety of apps available for recording – use whichever suits you best. Note that some may not allow you to edit your recording. Once you have recorded your video, you can download it as a MP3 (audio only) or MP4 file (video) for storage and distribution.

Find a suitable app: The inbuilt voice-recorder app in your mobile device might be useful for simple videos, but there may be a limit on the size of files, and there may not be any extra features included to help you record better audio. You might want to check out audio recording apps available through your app store. Read a few reviews and check the features of each app to make sure they suit your purpose before selecting and purchasing one. **Table 2** (below) lists a few apps for recording audio on a smartphone.

Table 2 Voice recording apps for iOS and Android—prices vary

App	Platform	Features
 Voice Pro	Android	<ul style="list-style-type: none"> • Create and edit audio in a variety of formats • Tag and highlight sections of audio • Edit using noise cancelling effects • Cloud integration • Language conversion
 Voice Recorder Pro	Android	<ul style="list-style-type: none"> • Record in .wav • Timetag sections of audio • MP3 conversion • Multi-level recording quality • Integration with Gmail
 Recordium	iOS	<ul style="list-style-type: none"> • Create and edit audio • Tag and highlight sections • Adjustable sampling rates and formats • Cloud integration

**Voice Recorder HD** iOS

- Unlimited recording time
- Adjustable quality control
- Audio trimming
- Supports external microphone
- Cloud integration

(Source: Deakin University, 2013, updated May 2017) Search for the name of the service in a web search engine to find out more.

Using the inbuilt microphone: Check the microphone position. Microphone positions vary depending on your smartphone so it's best to locate your mic and point the phone horizontally at the sound source (optimally about 15–30 cm away). Smartphone microphones are quite sensitive and will pick up nearly all sound in the room, so be careful of background noise.

Limitations: Unplug the headphones from the headphone jack on your device. If the headphones are plugged in while recording, you may get diminished audio quality. Also, remember that people are less likely to accept poor audio in the same way as they would accept low resolution video. If your audio recording is not clear, you might need to consider doing it again on another device. Make sure that you are easily able to get your audio file from your smartphone onto the computer and operating system if needed.

Tips for recording video with a mobile device

Inbuilt video recording apps on a mobile device may only have limited functionality to help you record your video. It's important to remember that the camera quality of each device is different and you may not get the video output that you wanted. You may also find that you want to edit out sections of your video, but your inbuilt app doesn't have the capacity to do so. **Table 3** (below) lists video recording apps for iOS and Android devices.

Table 3 Video recording and editing apps for mobile devices—prices vary

App	Platform	Features
 iMovie	iOS	<ul style="list-style-type: none"> Multi-touch gestures for drag and drop video editing HD movie rendering Timeline editor Inbuilt voiceover and video capture
 Pinnacle Studio	iOS	<ul style="list-style-type: none"> Special effects Multi-touch gestures for drag and drop video editing Access media internally and capture within app
 Magisto	Android	<ul style="list-style-type: none"> Special effects Timeline editor Add Instagram photos Access movies from your device Automatic video stabilisation, effects, filters Export to popular cloud services
 Vid Trim Pro	Android	<ul style="list-style-type: none"> Record and trim video Special effects Multiple transcoding conversion Frame grabber Share with social media

Option 2: Recording video with a webcam

If you have a webcam available on your computer or laptop, you can quickly produce a short video.

There are many software programs available to help you record and edit your final product using a webcam (video) and/or microphone (audio) on your computer. **Table 4** lists some commonly-used audio and video applications. Note that some of the free tools also have additional features for a fee. Use a web search engine to find the website for each tool.

Table 4 Commonly-used audio and video editing applications

Software name	Good for	Availability
Adobe Creative Cloud (several media applications)	Audio editing (Audition), audio and video capture (Media Encoder), video editing (Premiere Pro)	Available to UWA staff and students on the Multimedia Suite PCs on the 1st floor of the Barry J Marshall Library . See more info here .
Audacity	Recording and editing audio	Free, for PCs and Macs

Camtasia	Screen recording and e-learning authoring (e.g., interactive tutorials). Use to: record instructions, demonstrate a procedure or use of software, narrate and record a PowerPoint or Prezi presentation, edit together audio and video, create interactive learning objects.	Expensive subscription-based product, with short free trials available. Some Schools at UWA may have licences for a limited number of users (check with your School).
Open Broadcaster Software (OBS)	Video recording and streaming	Free, for Macs and PCs
GarageBand	Recording and editing audio	For Macs and iOS
iMovie	Video recording and editing	Free, for Macs and iOS
QuickTime Pro	Video recording and editing	For Macs and PCs
Screencast-o-matic	Recording your screen (e.g., software demonstration, recording your web cam)	Free, for Macs and PCs (although some audio functions require additional free software on Macs)
Windows Live Movie Maker	Video recording and editing	Free, for PCs

(Modified from Deakin University, 2014) Search for the name of the service in a web search engine to find out more.

These programs are only a small selection of the products available for editing audio and video. To find out more about the products above, refer to each application's support pages for tutorials and instructions. It's also a good idea to search YouTube to see if you can find video tutorials to help you get started or for a demonstration of a particular feature.

Option 3: Record with a video camera

Centre for Education Futures Media Recording Facilities

Video equipment can be used in the Centre for Education Futures Media Room and Creator Space Studio. Reserve a space here: <http://www.worldclasseducation.uwa.edu.au/education-futures/resources/media-room>

Choosing a video camera

You can use a small video camera which has been designed specifically for making video, a digital still camera set to video mode, or you can use your mobile device with in-built camera. The quality of the output will vary, but there are plenty of cameras available which are suitable. If you're unsure, do some quick testing to judge for yourself if the quality is good enough.

You can edit your video files using the programs listed in Table 4 above.

Option 4: Recording a screen capture with audio and video

Screen capture recordings (that is, recording your computer screen) can be used for demonstrations or presentations. Audio can be used to enhance text resources, by providing comments or context to a presentation, providing a deeper understanding, or providing explanations and examples around traditional bullet point slideshows. **Table 5** (below) lists screen capture tools.

Table 5 Commonly-used screen capture tools

Software name	Good for	Availability
Camtasia	Screen recording and e-learning authoring (e.g., interactive tutorials). Use to: record instructions, demonstrate a procedure or use of software, narrate and record a PowerPoint or Prezi presentation, edit together audio and video, create interactive learning objects.	Expensive subscription-based product, with short free trials available. Some Schools at UWA may have licences for a limited number of users (check with your School).
Screencast-o-matic	Recording your screen (e.g., software demonstration, recording your web cam)	Free for Macs and PCs (although some audio functions require additional free software on Macs)
Jing	A free screen capture tool that captures and shares images and video. Videos can be up to 5 minutes long in .swf format (Adobe Flash)—which cannot be embedded directly in the LMS; a web link must be provided to the video on the Jing site (screencast.com)	Free, for Macs and PCs
Educreations	An interactive whiteboard app which enables you to create, edit and publish video lessons	Free, for iPad

(Modified from Deakin University, 2014) Search for the name of the service in a web search engine to find out more.

5. Animated videos

Animated videos are currently very popular for educational, informational, and commercial purposes. They are generally short and designed to inform or persuade viewers.

Animated videos can be used for any purpose, but they are usually most effective with a focused message that explains a specific topic. They also can promote engagement and spark learner’s interest in pursuing the topic further.

[RSA Animate](#) and [Khan Academy](#) are well-known for producing excellent education videos—have a look for some inspiration, or perhaps even find a video to incorporate in your unit.

To create a basic animated video:

1. Choose the type of animation

Examples:

- 2D “cartoon characters”
- Whiteboard: appears to show images, drawing and writing on a whiteboard
- Kinetic typography: words appear and move around a screen (usually created with industry-level software like Adobe After Effects)
- Screencasts: images in a slideshow format and/or recording of software in use on a computer

Here are some examples of tools that can be used to make basic animated videos. More can be found by searching the web.

Software	Type	Cost
PowToon	Animation	Free with ‘premium’ features for a fee.
Moovly	Various, including infographic-style videos	Free with ‘premium’ features for a fee.
Biteable	Infographic-style videos	Free with ‘premium’ features for a fee.
Rawshorts	Whiteboard-style animation	Free with ‘premium’ features for a fee.
Truscribe	Whiteboard-style animation	Paid subscription. Free trial available.
Videoscribe	Whiteboard-style animation	Paid subscription. Free trial available.

2. Write a script

As with any video, it's important to craft a focused message to keep the video short and impactful.

Explainer videos often are used for marketing products and services, but the structure can also be adapted for educational purposes:

1. Very brief introduction of the context or purpose of the video
2. Introduce the topic—its importance or relevance. Many effective videos pose the topic as a problem that requires a solution.
3. Present the “solution” or information that resolves the knowledge gap that the video is explaining.
4. Elaborate on the details that the learners need to remember.
5. Conclude by summarising the topic's relevance and relate it to what learners need to do next.

Storytelling approaches are also very effective.

3. Storyboard

Layout the visuals that will appear in each segment of the film--step-by-step. The software you choose may help you do this.

4. Create the video!

Animation

Create the animation using the software you've selected.

Voiceover / music

Record the voiceover yourself or enlist a colleague. If you have a budget for your project, you can also hire a professional voice actor from [voices.com](https://www.voices.com). Some tools include an automated voice, but they're generally not very good.

5. Publish

Check beforehand whether the software will allow you to export the video or publish to another service like YouTube. With some, you may need to link to the video on the software service's website.

7. Learn more

- [The art of writing great voice over scripts](#), The eLearning Coach blog
- [Recording video with a smartphone](#), ABC Open 'Tip sheet' (PDF)
- [Increasing student engagement using podcasts](#), Case study COFA online
- [Beginner's guide to creating a video story](#), Everyday Democracy
- [Pedagogical roles for audio in online learning](#), Bates, T., Online learning and distance education resources blog
- [ConceptPlan](#): a method for planning and storyboarding, developed at Deakin University
- [Video guidelines from University of Missouri](#)
- [Guidelines for producing video from New York University](#)
- [How to Make Great Video: Mannerisms, or How Not to be Annoying](#) (Rozakis, R. (2016) on the Kaltura Blog)
- Video: [Tips For Using Video In Teaching & Learning](#) (Kaltura Blog)