# Creating accessible videos

This guidance will help you improve the quality and accessibility of your video recordings.

A better quality recording and the inclusion of accessibility features will aid all students’ attention and comprehension, but are particularly important for some disabled students’ access to learning, or for those studying in a distracting environment.

There is no need to aim for perfectly produced videos, but taking some time to establish your own recording set-up and routine that is comfortable for you, and makes best use of the space and equipment you have, will save time overall and provide a better quality learning experience.

## Planning considerations

* **If you are choosing between pre-recording a video and live streaming, bear in mind that pre-recording has advantages for accessibility** as it is not subject to live technical problems such as loss of internet connection or unexpected sound or video issues. Also, students in different time zones or with poor internet connections can access this option equitably.
* Enable students to [download recordings](https://help.it.ox.ac.uk/replay/exporting) (this is enabled by default) and allow access until the relevant assessments/examinations have been completed, following [current University of Oxford policy](https://help.it.ox.ac.uk/files/replaylecturecaptureservicepolicy30-07-2020pdf).
* Make available PowerPoint slides and other learning materials connected to the lecture as separate electronic files, as this is helpful for note-taking and to access the alternative text for graphs and images. These can be attached to the [relevant Panopto session](https://help.it.ox.ac.uk/replay/exporting#Exporting%20PowerPoint,%20Keynote%20and%20PDF%20documents), although making them available in Canvas is preferred.
* **Network connectivity:** Use a wired direct connection to your network hub if possible. Alternatively, aim to reduce activity across your shared home network when recording.

## Sound quality

In terms of video production, good quality audio is the single most important factor in facilitating comprehension and attention. It also improves the accuracy of automated captions. If in a lecture room setting with automatic lecture capture in place, use a lapel microphone if available, or alternatively make yourself aware of where the microphone is located.

To improve sound quality for home or office recordings, consider the following:

* Carry out **test recordings** and check the sound quality by listening back with headphones
* Use a **good quality microphone**. The Replay team has produced the following advice on [recording equipment for home or office use](https://help.it.ox.ac.uk/replay/equipment/home-office). Using a headset or a standalone microphone rather than the built-in microphone in a laptop is likely to provide better sound quality. If using a headset, position the microphone stem to the side of your face rather than close to your lips, as this avoids sound distortions.
* **Check microphone sound levels and recording quality** settings in your Operating System and within Panopto. In Panopto, ensure that the audio recording setting in ‘primary sources’ is set to ‘ultra’. Input volume levels should be high enough for the speaker to be clearly heard, but not so high as to cause distortion in your recording. You can check that the volume levels are appropriate in Panopto in the ‘create new recording’ tab, in the ‘primary sources’ area. If the sound levels bar goes into the red zone while you are speaking, the microphone volume is too high.
* **Think about the recording location and minimising disturbances**. Use an enclosed, carpeted space, or alternatively a space with plenty of furnishings to avoid sound reverberation as this impacts sound quality (eg a spare bedroom or office rather than a kitchen or laboratory). Just before you record, close windows and doors to minimize external noise, set phones and notifications to silent and close down unnecessary applications.
* **Sit/stand at a consistent distance from your microphone** and avoid turning away from it whilst speaking (a headset microphone is beneficial to avoid this). Do not place your microphone close to your computer if there is significant fan noise.

## Improving automated captions

Captions provide a way for people who are hearing impaired, or have difficulty processing dialogue, to access to audio-visual material. They benefit students with a variety of needs, such as those with visual impairments who cannot read slides clearly, and neurodivergent students (including those with specific learning difficulties or autism), who cannot follow audio content easily. Captions are useful for all students by giving flexibility to turn off the sound, to access a video in noisy environments, and as an aid to notetaking and clarifying terminology.

Panopto automatically captions lecture recordings, and students have the option of viewing these by clicking on the ‘cc’ button within the media player. The accuracy of automated captions is partly dependent on features of the video itself, so to optimise the accuracy of captions, tutors can:

* Follow the advice to ensure good sound quality (see section above for details): use a good microphone, speak at a consistent distance from it, minimise background noise and select the appropriate recording quality settings in Panopto.
* Speak at a moderate and consistent pace, clearly and with a consistent volume.

Automatic Speech Recognition has improved in recent years, but some inaccuracies, especially with specialist terminology, will remain. Staff are not expected to manually edit captions or transcripts that are automatically created, and access to video content should not be restricted where it has not been possible to eliminate errors. There is a [quick guide to editing captions](https://help.it.ox.ac.uk/replay/captions) including how to [export captions](https://help.it.ox.ac.uk/replay/captions#Exporting%20captions) for staff who wish to do this. If editing captions quickly, rather than aiming to eliminate all errors, focus on correcting those that most affect meaning in key parts of a lecture, for key terminology, and for maths notation/formulae. Adding detailed lecture notes or scripts and using PowerPoint slides to summarise the key points and explain key terminology improves accessibility and can mitigate for captions that are not fully accurate.

**Caption editing by the Disability Advisory Service:** If there are particularly widespread caption errors which have a disproportionate impact on meaning and intelligibility, then departments can contact the Disability Advisory Service who can advise/arrange access to manual caption editing/transcription services subject to demand ([nmh@admin.ox.ac.uk](file:///C:\Users\otss0554\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\94EZCEGH\nmh@admin.ox.ac.uk)). Students who require manually edited captions for increased accuracy, or text description of visual content as reasonable adjustments, should contact the University Disability Advisory Service via [disability@ox.ac.uk](mailto:disability@ox.ac.uk).

## Describing visual content

Audio description provides an alternative to visual content for people who are visually impaired. It is only necessary to provide descriptions for visual material that is relevant for understanding the content.

If any significant meaning in your video is presented purely visually, for example a visual demonstration of how a piece of equipment operates, then an audio description is needed. For much visual content, the best way to handle audio description is to provide a full and explicit description within what you say in the main audio.

For example, ‘this chart shows that sales increased significantly, from 1 million in the first quarter of 2019 to 1.3 million in the second quarter’, is a full description of the visual information, but saying ‘you can see how sales were affected on this chart’ relies on the user being able to see. A key part of providing good audio description is to refer to objects explicitly, rather than using pronouns that refer to the visual content. For example, ‘attach the small ring to the green end, which is the larger end’ rather than ‘attach this to the green end’. This not only improves access for visually impaired students, but is also helpful for all students to improve comprehension of the visual information.

## Video quality

Good quality video content can enhance the student experience by enabling learning content to be seen more clearly and with fewer distractions. Poor video quality can have a disproportionately negative impact on students with visual impairments and neurodiverse conditions.

* **Lecture recordings should include a video feed of the lecturer**, in addition to the PowerPoint presentation or other screen-sharing. This builds a personal connection with students, and is crucial for students who lip-read.
* **Carry out a test recording and check video recording quality settings.** In-built cameras in laptops (especially on old machines) can provide poor quality images.
* **Check that your room is well lit** so that your face and other learning materials can be seen clearly.
* **Avoid having a window directly behind or beside you** as your face will be silhouetted. If your workspace is very near a window, closing curtains and switching on overhead lights or lamps can be helpful for diffusing light. Experiment with different lighting until you find the set-up that works for you.
* **Face the camera, positioned at or slightly above eye level.** This enables the presenter to ‘make eye contact’ and students to see facial expressions more clearly, recreating a sense of personal connection and aiding comprehension. If a built-in webcam on a laptop is used, place it on a stand to achieve the correct height. Any laptop support should be sturdy to avoid the camera shaking.
* **Avoid visual distractions** in the backgroundby choosing a neutral background for your recording (eg a relatively blank wall) and by avoiding highly patterned backdrops and clothing (these can seem to ‘dance’). You can also now choose blurred and virtual backgrounds in [Panopto Capture](https://www.it.ox.ac.uk/article/panopto-capture#/), the new web-based recording option.
* PowerPoint slides: use large font sizes, minimise the amount of text per slide, keep slide templates simple, use the layout options in PowerPoint rather than editing blank slides, and add alternative text to visual content. For full details, see these [accessibility tips for PowerPoint](https://www.ctl.ox.ac.uk/accessibility-teaching#collapse1852431).
* If screen-sharing, close down all unnecessary windows and [increase the size of your mouse pointer](https://mcmw.abilitynet.org.uk/making-mouse-pointer-larger-windows-10?utm_source=google&utm_medium=cpc&utm_campaign=Dynamic-Search-MCMW&gclid=CjwKCAjwiOv7BRBREiwAXHbv3Kax14YbtZIvznRdg3KIbkFiZkLJprWTz32GfOJFdkIvPaKg3dhdvRoCWZcQAvD_BwE). You may also wish to apply magnification to the screen so that students can see what’s displayed more clearly (Cntrl +).
* If you need to write out equations or draw diagrams during your lecture, using [electronic whiteboards](https://www.ctl.ox.ac.uk/electronic-whiteboards) or pre-prepared slides is preferable to recording a physical whiteboard or flipchart, as these can be more clearly seen by students.

## Adding structure and interactivity to pre-recorded videos

You can recreate some of the interactivity of face-face sessions, and aid student concentration, by:

* Keeping the overall length of videos no longer than the equivalent face-to-face session.
* Providing explicit pause points for students. This can be achieved by splitting lectures into shorter recordings of approximately 5-10 minutes with clearly defined themes. Alternatively, if making one recording, ask students to pause at specific points: to take a break, to reflect on a specific question, or to carry out a task.
* [Polling tools](https://www.ctl.ox.ac.uk/polling-tools) can be used to interact with students asynchronously or you can [insert quiz questions into a Panopto recording](https://support.panopto.com/s/article/How-to-Add-a-Quiz-to-a-Video).
* Detailed pedagogical advice on lecture recordings, including facilitating interactivity, is available in the [Flexible and inclusive teaching resource](https://canvas.ox.ac.uk/enroll/3YWHJD) in Canvas (see the Lectures>Ideas section).

## Captioning livestreamed events and other languages

**What do I have to do to provide captions for live-streamed events?**

Automated captions are available to all during live Teams sessions by clicking on three dots icon and then ‘turn on closed captions’ as well as with Panopto’s webcasting service.

Recordings of Teams meetings will not include the automated captions which appeared during the meeting. However, [recordings uploaded to Panopto](https://www.ctl.ox.ac.uk/recording-teams-meetings) will be re-captioned automatically.

Zoom also has an [automatic captioning feature as well as a facility for live manual captioning](https://support.zoom.us/hc/en-us/articles/207279736-Closed-captioning-and-live-transcription) by third parties or participants. It is a good idea to tell students about the captions functionality in the platform you are using and encourage them to try it.

If users come across uncaptioned or content or inaccurate captions, Google Chrome provides automated captions, which appear whenever chrome identifies spoken audio. To turn on captions in Chrome, go to Settings>Advanced>Accessibility, and there is a toggle at the top of the screen to turn live captions on or off.

Live human captioning may be required as a reasonable adjustment for some students and the Disability Advisory Service can help facilitate this, or agree alternative reasonable adjustments (disability@admin.ox.ac.uk).

**How can I provide captions if I teach in a language other than English?**

Whilst Panopto's automatic captioning service is only available in English, it is possible to generate captions in other languages from YouTube and then upload them into Panopto (YouTube currently supports automatic captions in 13 different languages) by following these steps:

1. Videos first have to be uploaded to YouTube: see [upload videos to YouTube](https://support.google.com/youtube/answer/57407?hl=en&co=GENIE.Platform%3DDesktop).
2. Then [generate, review and edit YouTube captions](https://support.google.com/youtube/answer/6373554?hl=en-GB#zippy=%2Cautomatic-captions-on-long-form-videos-and-shorts).
3. [Download the captions](https://titaniumhelp.fullerton.edu/m/FAQ/l/498105-how-do-i-export-the-youtube-auto-generated-captions) from YouTube.
4. The resulting caption file can then [uploaded into the relevant session in Panopto](https://support.panopto.com/s/article/Manually-upload-Captions).
5. [Screencast-o-matic](https://screencast-o-matic.com/) can also be used to caption in languages other than English, although the free version of this software restricts users to videos of 15 minutes and does not capture computer audio.

## Further information

* Introductory guides to recording videos using the [Panopto manual recorder](https://help.it.ox.ac.uk/replay/manualrecording).
* More information and ‘how-to’ guides on the [Accessibility page](https://help.it.ox.ac.uk/replay/accessibility) of the Replay website.
* The [best practice guide for using the Manual recorder](https://help.it.ox.ac.uk/files/bestpracticesforusingpanoptomanualrecorderpdf) advises how to reduce disturbances during recordings and distractions for viewers.
* More information on [audio description](https://www.w3.org/WAI/media/av/av-content/#plan-description).
* [Oxford University Panopto Accessibility Statement](https://help.it.ox.ac.uk/replay/accessibility/statement).