Make the most of recorded lectures

Overview

Having access to recorded lectures is very popular with students but many don't get the most out of it. This guide outlines some key ideas you can use to learn better from recorded lectures.

If you just want to learn how to use the video player better, you can go straight to the Panopto guide for students.

To get the most out of the recorded lectures available to you, consider some of these evidence-based tips and ideas.

Five things to think about:

1. What's the purpose of lectures for learning?
2. Why and how you should attend lectures even when they're recorded?
3. How you can integrate recorded lectures into the revision process?
4. How you can maximise the time you put in by active and constructive engagement?
5. What are the features of the video player that will help make engaging with the videos easier? (see Panopto guide for more)

Seven tips to keep in mind:

1. Don't give up on the benefits of attending the lecture live with others
2. Schedule time to watch the lecture recording by yourself or with others
3. Pause and skip back frequently to take notes and make bookmarks

4. Learn to navigate the video using slides and transcript
5. Many people like to listen at higher or lower speed - try how well this works for you
6. Don't take notes word for word, summarise each point and the whole lecture in your own words
7. Ask questions of the lecturer and other students

5 tips for learning from lectures in general

You should go to lectures. Students who attend lectures are more successful at learning than those who don't. But do not confuse attending the lecture with learning. Attending is better than not attending but you also need to engage. Here five ways of making the most out of your lectures:

1. **Don't go into your lectures cold.** Find out a little bit about the topic. Read the readings. Write down questions you are expecting the lecture to answer.
2. **Take notes** in any way that helps you. But don't think you have to take notes word for word. Try to summarise as you write notes, consider using mind maps, concept maps or outlines.
3. **Ask and answer questions.** Take the opportunity to ask questions during live lectures or online. Whenever possible, try to answer other people's questions. That will help you clarify your understanding.
4. Write a **summary of key points** after the lecture without consulting your notes to check how much you've retained. Often, you will realise that you're able to write down less than you thought. **Compare your summary** with somebody else's and reconcile any differences.
5. **Follow up** by doing the readings, working through problems, etc. For every hour you spend in a lecture, you should spend at least 2 more studying.

Remember, lectures are an important part of the learning process but you still need to **spend time** making what you heard your own.

Attending a lecture gives you a chance to focus, block time when you're doing nothing else, and be with others doing the same activity. These are powerful signals for learning.

But you can never say, I've attended a lecture, I've learned. Most of the actual learning will happen before and after the lecture, as you're planning, reflecting, taking notes, or revising. Make sure all of these activities are a part of your routine.

5 tips for revising from recorded lectures

All students like the idea of having recorded lectures. But we know from the view numbers that most of them don't watch most of the videos. This is partly because it seems like such a daunting task to go through so much material again. And even if you only go to watch a part of the video, it's much harder to skim for gist or to scan to get to the most important parts. Here are some tips.

1. **Learn with others:** If you're planning to rewatch the entire lecture, do not do it alone. **Schedule time with others**. Like a movie night. This will make it more likely you will actually do it. But more importantly, you will be able to check your understanding with others. Agree on rules on how often you want to stop.
2. **Pause and rewind:** After watching, think about how often you paused, fast forwarded, or rewound the video. All of these activities are signs that you are actively engaging with the content. And research shows that you will learn more. This is a great advantage of recorded lectures.
3. **Change the speed:** It is easy to train yourself to listen at an increased speed. You can go through the same lecture in less time. Some people say that it helps them focus. This works best in quiet environments with headphones on. But don't be afraid to slow down for certain parts. Maybe English isn't your first language or the topic relies on a lot of technical language. Those are some situations when you will learn more if you listen at a lower speed.
4. **Annotate the video:** Did you know you can bookmark parts of the video? You can also take notes in the video and share those with others. Ask and answer questions.
5. **Watch strategically:** Often, you only want to rewatch certain parts of the video. Take advantage of the **search feature** that will find what was said as well as text on slides or use the slide view to navigate.

Following these tips will help you **avoid binge watching** your lectures at the last minute. This is the least effective way of learning difficult concepts because you are increasing the cognitive load. See next section for more tips on how to manage this.

5 tips for learning from video and managing the cognitive load

Compared to reading, video can put more demands on your working memory. Working memory is how much you can keep in your mind at once to do mental operations. **Everybody's working memory is limited.** There are only so

many chunks of information it can hold. But the **chunks you put in working memory can be very large and rich**. That's how mnemonic devices or metaphors work. You associate something that's already rich in meaning with something with which you don't have any meaningful association. So paradoxically, you can remember a new thing better by putting more things in your memory with it.

Video is a continuous stream of sounds and images which can put an extra load on your working memory. This is called **cognitive load**. But because video is also rich and full of useful signals, it can give your working memory the richness it needs to process bigger chunks of information.

Here are some tips for managing your cognitive load while watching the video.

1. **Reduce distractions:** This sounds obvious. Distractions make you lose focus, so, of course, you should avoid them. But they also saturate your working memory. That's why you may find it better to watch a video with headphones on.
2. **Build up more background knowledge:** If every bit of information is new, it puts a higher load on your working memory. That's why it's so useful to learn something about the subject before watching the video. Read short bios of people mentioned, look up their pictures. Try the formulas or watch the experiments online before the lecture. Find related videos online.
3. **Watch in smaller chunks:** Lectures are scheduled in hours because of the limits of time and space. But you don't have to watch them in one go. Take a break after a meaningful chunk every 10-20 minutes. Pause to do the exercises, work out a problem, look up an answer to a question posed in the video.
4. **Notice the confusion break**: Often, there's a point in a lecture when understanding turns into confusion. That's when too many new things combine and you can't keep them in your working memory at once any more. That's the time to pause and go back. Write down the difficult concepts, work out a technical problem, draw a concept map. Don't just power through.
5. **Seek out the challenging parts and formulate questions:** Things that are easy to understand make us feel good and are comfortable or even pleasant to watch. Not understanding something, on the other hand, is stressful and often makes you question yourself. Use those feelings as a signal to rewatch the parts of the video you find more difficult to understand. There is no shame in watching a complicated explanation or exercise assignment multiple times. But don't just leave it

at that, use that to formulate questions to ask of your peers or of the lecturer online or in person.

5 features of the Panopto video player to help

The Panopto video player has many features that are very much underused. Make sure you've tried them all. But also check in with yourself after a while if there's a feature you wanted to use but are not taking advantage of.

See the Panopto guide for more details about:

1. Embedded videos vs video with full interface
2. Modifying speed of videos
3. Searching and navigating through video
4. Making notes and bookmarks
5. Using captions and transcripts

Reflect on your process, ask others about theirs

Learning is a skill and you can get better at it. One way to improve at any skill is to pause and reflect on your practice. How well is what you're doing working for you? Are there areas where you struggle and a change could help? And most importantly keep track of what you're doing and how you're progressing. Do not rely on your memory. Keep a learning diary.

You are not alone. Make talking to other students a part of your reflection. Ask them how they study, what works for them. Share what you do. See if you can learn from each other but remember almost everything works for someone and nothing works for everyone. So experiment with what works for you.

There are many people online sharing their process. Take advantage of the advice but always consult more than one source to get more points of view.

How do we know

The advice on this page is based on a body of good evidence.

The **importance of attending lectures** for success has been shown in a number of studies. A large meta analysis of 68 studies in 2010 showed a strong link between attendance and grades (Credé, Roch, and Kieszczynka 2010). A more recent systematic review has shown that 85% of 27 studies conducted in the human biosciences reported a positive association between lecture attendance and academic success (Doggrell 2020).

The importance of **reducing cognitive load** while watching videos has been replicated in a number of studies. Clark and Mayer (2016) summarised 30

years of research in this area as the 10 principles of multimedia learning. One of the key insights of their work is that minimising cognitive load is especially beneficial for beginners. They also show the benefit of viewers controlling the video playback.

Memory (and working memory in particular) is still an active area of research and there are many unknowns. But the key insight that you can overcome its limits by increasing the size of chunks goes back to a famous paper by G. A. Miller (1956). More recently Anders Ericsson has leveraged the idea to help understand expert performance (Ericsson and Pool 2016). Ericsson's framework also stresses the importance of reflection on the learning process for improvement and the importance of focusing on areas of difficulty.

The **benefits of active engagement**, writing summaries and working questions out with your peers has been summarised in the ICAP framework by Chi and Wylie (2014). It draws on a number of studies showing that simple behaviours such as stopping and pausing a video can be a signal of more active engagement that leads to better learning. This is then magnified if students create something new - such as summaries or mindmaps and then have a discussion about it with others (Chi and Menekse 2015).

Using **concept maps** for working out difficult concepts has been found to improve understanding in a number of studies and the positive association was confirmed by two systematic reviews (Nesbit and Adesope 2006; Hay, Kinchin, and Lygo-Baker 2008).

Research on how **speed of playback** impacts comprehension is still too new for a systematic review but early studies indicate that with practice people listening at a speed of up 2x can maintain comprehension (Nagahama and Morita 2018). Another recent study also suggested that students who watch at higher speeds 1.25x watch more videos (Lang et al. 2020). However, there is also one study that showed that beginners who were asked to watch videos at higher speeds without preparation did less well on a test (Song et al. 2018).

Much of this research only confirms what is known from the **study skills** literature. Stella Cotrell's Study Skills Handbook (2019) is a very readable overview full of useful tips on how you can improve your learning.

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