



# Online teaching and learning: lessons learned

ECHO Tip 101 • April 2021

---

**Centre of Expertise for Higher Education (University of Antwerp)**

---

'Can everyone see me?' and 'Is the PowerPoint showing up?' are questions that rarely, if ever, used to come up at the beginning of a lecture. These are questions specific to 'synchronous online education'. In this ECHO Teaching Tip, we'll discuss the lessons we've learned so far from synchronous online teaching, and we'll also offer some practical tips for future teaching activities.

After a brief outline of the situation and some of the specific features of synchronous online education, we'll get into the practical tips, based on past experiences.

---

## Asynchronous and synchronous online learning activities

---

In the education literature, a distinction is made between two types of online education: [asynchronous and synchronous](#) (see also Pullen, J.M. & Snow, C., 2007). **Asynchronous online learning** is independent of time and place, and flexible, so the learner can absorb the subject matter at their own pace. Examples include watching a screencast, reading online articles, solving online exercises, or responding to a discussion on an online message board. **Synchronous online learning** is immediate, simultaneous, live, and focused on direct social interaction. Examples include working together and simultaneously on a group assignment using an online platform for group collaboration (e.g. Microsoft Teams or Blackboard Collaborate Ultra) or attending a live online lecture via a virtual classroom tool (e.g. Blackboard Collaborate Ultra).

An online learning environment can consist of asynchronous or synchronous learning activities, or a combination of both. For instance, consider a learning environment in which students are asked to process learning content prior to an online lecture by watching screencasts (an asynchronous online learning activity). Afterwards, they're asked to respond to a statement via an online message board (also an asynchronous online learning activity). Then, during a live online lecture, they discuss the previously processed learning content and the input from the message board (a synchronous online learning activity). The choice of asynchronous or

synchronous online education will depend on the competences you want the students to acquire.

There are several key differences between synchronous online lectures and face-to-face sessions. In what follows, we'll discuss these differences, and the resulting characteristics of synchronous online education. Afterwards, we'll give you some specific practical tips for synchronous online teaching.

---

## Specific features of synchronous online learning

---

A synchronous online lecture **can take up more of your time** than a face-to-face lesson. This is partly because, as a lecturer, you have to worry not only about the content and didactic aspects, but also about the technical side of things. There's always a chance of running into technical problems, delays or failures due to a poor network connection. A related phenomenon is that online education is slower, so maintaining the pace of the lecture is a point of concern. That's why, even more so than for face-to-face lectures, you should observe the KISS principle: keep it short and simple. Think carefully about what you definitely need to convey in the lecture, what's essential and what could possibly be left out. Always keep in mind the learning objectives for your course as a general guideline.



In an online class, students are **more isolated, both physically and socially**. Given that there are fewer incentives for interaction, it's best to focus even more on activation (see also [ECHO Tip 90](#) and [ECHO Tip 95](#)) instead of doing all of the talking. The KISS principle applies here as well.

An online class is also **more intensive, both for students and for the lecturer**. Looking at a screen, which gives off light and radiation, is significantly more tiring. This is often combined with a large number of slides for students to process. Communicating live online also requires more focus, as it takes more effort to process any non-verbal cues.

In addition, students are more likely to multi-task during online lectures. This is because they often have several computer programs running. This multi-tasking can have a negative effect on the attention paid to the learning content (see also [ECHO Tip 78](#) about laptop and smartphone use in the auditorium).

The many distractions students face can also create a sense of communication overload (Stephens et al., 2017). Moments of silence, which are a normal part of face-to-face conversations, often take on a somewhat negative connotation during online contact. Here, silence may indicate a technical problem, and it's also harder to interpret correctly without any non-verbal cues. This can cause additional stress. Finally, having to show themselves on-screen, as well as the constant combination of learning content and technology, can create additional mental pressure for students (Rubens, 2020).

Online education requires **more structure and more support**, in terms of practical organisation as well as the subject content. This applies both to synchronous online lectures and to online education as a whole. The main concerns experienced by students in online education are challenges when it comes to self-directed learning and the use of learning technology (Rasheed, Kamsin & Abdullah, 2020). A student and lecturer survey conducted in 2020 at the University of Antwerp has confirmed this. Students ask for more support in their learning process via online tests, [online feedback](#) and [online Q&A sessions](#) (accessible only to UAntwerp staff) or interactive lectures. Other ways of offering structure and support are discussed in [ECHO Tip 90](#).

---

## Practical tips

---

### How can you prepare students and yourself when organising an online class?

As mentioned earlier, online education often requires more support, including practical and organisational support. It's best to inform students in advance about the way you'll be conducting the online lectures. This can be done by providing them with a manual (UAntwerp staff can consult an example of a student manual [here](#)).

What can you inform your students about? This may include technical requirements that need to be checked before the session. You can ask students:

- *to ensure they have a stable internet connection, preferably a wired one;*
- *to close all non-relevant applications during the lecture;*
- *to make sure their laptops are plugged in;*
- *to use certain browsers and not others;*
- *to use a headset with a built-in microphone to increase audio quality.*

You can also provide information in advance on how to do certain things, such as:

- *how and when to set up the camera and microphone;*
- *how to ask a question;*
- *how active participation is organised;*
- *which functionalities are included in the virtual classroom software and which ones you'll be using;*
- *what to do in case of technical problems during the lecture;*
- *where to find more information about the virtual classroom software;*
- *whether or not the session will be recorded.*



In addition, students need to know the date and time of the online lecture, and how they can attend it. If students are not yet familiar with the virtual classroom, you can create a 'practice room' where they can get acquainted with the software and test some things, like their browser, camera and microphone settings.

Also ask students to log in to the virtual classroom well in advance, so any technical problems can be solved in time.

Finally, at the start of the first synchronous online lecture, go over these arrangements again.

### A positive classroom climate: the sequel

In a [previous ECHO Tip](#), we discussed how you can work on a positive classroom climate, including how to do that in online education. In this Teaching Tip, we'll be adding on to this, focusing specifically on creating a positive classroom climate in synchronous online education.

- Using the camera

We already talked about using the camera to create a group feeling in the previous tip. Be sure to appear on-screen regularly, and not just in a corner. Turn off screen sharing or file sharing now and then, so your video fills the entire screen. You can then simulate eye contact by looking into the webcam instead of looking at your screen. Even when simulated, eye contact can create a more connected group atmosphere.

Always try to show students who are speaking (giving an answer or asking a question) on screen. You might also consider asking students to keep their cameras switched on. In most virtual classrooms, this ensures that several students are visible at all times. That creates a stronger group feeling, since you're not constantly talking to a 'soulless' screen. Two aspects to keep in mind here:

- *Video feeds require a lot of bandwidth, which may destabilise the connection, so this is less advisable for large groups.*
- *Keep the privacy of students in mind. Some students may not be able to isolate themselves in a quiet room, so you might be looking into a student's living space. To remedy this, some virtual classroom applications offer the option to blur the background.*

- Informal contact

If you can only teach online, you have fewer opportunities to connect with your students in an informal setting, like before or after class, or during breaks. Consider starting your synchronous online sessions a few minutes early, so you can welcome your students informally.

If you want to focus even more on social contact, you can extend this informal 'prelude' by starting even earlier (e.g. 20 minutes) and really engaging in small talk. To pique students' interest, you can tell them you'll be sharing an anecdote, a funny moment, or even the most embarrassing teaching moment of your career. This allows your students to get to know you too, which helps to create a positive classroom climate. In order to inform and inspire this small talk, you can use the answers to a getting-to-know-you questionnaire that you had the students fill in during a previous synchronous online lecture. This will help you get acquainted with your students, which also helps to create a positive classroom climate.

Another way to inspire your small-talk session is by organising a '[Meme Check-In](#)'. This involves asking students, as they join the virtual classroom, to share their current state of mind in the chat box using memes. You can then respond to these images, either in the chat box or by talking to them (other online check-in methods can be found [here](#)).

- Proper teaching

Creating a positive classroom climate is not limited to social aspects, as it also requires proper teaching and adequate support. A [virtual Q&A session](#) (example accessible only to UAntwerp staff) can go a long way in this regard. The previously mentioned student and lecturer survey at UAntwerp has shown that many students are in favour of including this type of support permanently in future education.

Proper teaching is also about finding out what's going on in the student group and responding to it. This way, you can make students feel that they're an important part of the lecture, and not just passive recipients. During face-to-face lessons, you would normally do this by observing body language and facial expressions. But that's not usually possible during a live online class. In order to remedy this, many virtual classroom applications allow students to use emoji and polls, and to raise their hands digitally. This way, students can easily indicate that the pace is a bit too fast or too slow for them, or that they agree or disagree with what



you're saying. Be sure to make good use of these features. Explicitly asking for feedback puts you in touch with the student group and creates a stronger group feeling.

## Interactivity in an online environment

- Group work in virtual buzz groups

When students break out into virtual buzz groups, they disappear from the plenary environment for a while. Note that some latecomers or students who had technical problems may enter the plenary room during the breakout groups. It's best to mute your microphone to prevent students from inadvertently overhearing conversations you may be having in the background, outside the virtual learning environment.

Some tips for a smooth transition back to the plenary environment:

- *Indicate in advance when and how you'll be calling the groups back to the plenary session.*
- *Remember to emphasise in advance that students entering the plenary room should mute their microphones immediately.*

Two questions that often arise when working with virtual buzz groups:

### 1. **How much time do the students get to work on the assignment?**

*It's often difficult to estimate how much time students need to work on an assignment. In face-to-face teaching, it's much easier to gauge whether most students have completed their assignments. It's more difficult in a virtual setting. You can ask students to indicate that they're done in the chat box. You can also visit them in the groups and ask them yourself, or you can ask them in the chat box. If necessary, you can give them some extra time to complete the task.*

### 2. **Joining breakout groups**

*'Popping in' unexpectedly can be invasive, bringing ongoing discussions to a screeching halt. However, it can give you a head start when discussing the assignment afterwards.*

*So how can you visit the students without disturbing the flow of the discussion too much?*

*Announce in advance that you'll be checking in on each group. Make sure you enter groups visibly, as a moderator, so that participants know you're there. Announce your presence verbally. Try to keep your input short (e.g. by asking: 'What were you discussing?') and then fade into the background.*

- Feedback on assignments

In online education, too, you can set assignments for students to complete individually or in groups, either before or during the lecture. In both cases, you can follow this up with a feedback session to discuss the correct solution, or a possible solution. Such feedback is important, and can be given by the lecturer or by fellow students. It's best to prepare this debriefing session thoroughly.

A few things to consider beforehand (partly based on Van Petegem et al., 2009, p. 111-112):

- *How many groups/students are you going to give the floor to?*
- *Is it necessary to give the floor to every single group (given time constraints)?*
- *Which group/student will go first?*
- *Should one person per group be appointed to take notes? In that case, state clearly what the task of this note-taker is.*
- *Will the students be sharing visuals? In that case, ensure that they have the necessary role to share documents.*
- *How much time are you going to allow?*
- *How will you ensure that students take away the key insights from the assignment? Will you be providing a summary of the feedback yourself, or are you going to appoint a student to make a summary?*



Additional points to consider when organising an online live feedback event:

- *Just as in a face-to-face teaching, avoid dominating the entire feedback session. That would discourage students from actively working on the next assignment.*
- *When giving students the floor, instruct them to turn on their cameras as well. However, respect that some students may not want to appear on screen due to circumstances beyond their control.*
- *Keep in mind that non-verbal cues are mostly absent during online feedback sessions. If you want to gauge whether students agree with a possible solution, for instance, you can use anonymous voting or a virtual show of hands (see above).*

- Student selection strategy (see [ECHO Tip 70](#))

If you're planning to let only a few groups speak during the feedback session, or if you want specific students to answer questions, you should think of a selection strategy in advance. Picking students randomly ensures that each student is compelled to think about the question asked, as they might be up next. This is not the case if you ask for volunteers through a virtual show of hands.

If the list of participants in the virtual learning environment is (or can be) numbered, you could opt to pick a random number and ask the student with that number to answer. Afterwards, you can ask this student to pick another random number. This will then be the next student to answer. 'Getting picked' is often perceived as negative, which can undermine the classroom climate, so randomising the selection process is a good way to avoid this. Try to think of ways to pick students that don't seem to put them on the spot.

Also keep in mind that picking students isn't always necessary. You can rely on volunteers, but since there's no direct eye contact in an online environment, you'll have to find other ways for students to indicate they would be willing to answer. Stimulating an 'activation culture' can prove helpful: you create a safe environment where students are used to participating (see [ECHO Tip 67](#) on creating an activation culture).

- Dealing with interaction in a student-oriented way

It's important to put students at ease (see above: positive classroom climate), including when it comes to the interactive elements of your online lectures. One way of doing this is to discuss certain things in advance, even though they may seem obvious, like how and when to use the chat box and the virtual show of hands.

*You can let the students speak immediately, or discuss any incoming chat messages right away (the pace is then set by the students).*

*You can say that you've noticed there's a question and you'll get to it right away (pace set by students).*

*You can group raised hands or incoming messages together and deal with them at set times throughout the lecture (pace set by lecturer). This can improve the flow of your lecture as there are fewer interruptions, and it can allow for better time management.*

Another way to put students at ease (especially first-year students) is to familiarise them with the software in a casual and playful way, for example by organising a fun quiz via the poll system before you start asking real content-related questions.

Finally, you can also reduce pressure by giving the students a moment to think about the answer individually ('quick think'). This can help reduce reluctance to speak up in a large group.



## Finally, some practical and organisational suggestions

Let's wrap up this Teaching Tip with some suggestions specific to the virtual classroom setting.

- *Be aware that there will often be a delay in your shared presentation. Animations (e.g. in PowerPoint) will appear a little later on the students' screens than on your own screen. That's why it's best to stick with simple animations (such as 'appear'), so the lag isn't too noticeable.*
- *It's best to be open and state explicitly what you're doing when it comes to technical matters (e.g. 'Hang on, I'm going to share my PowerPoint now' or 'I'm going to split you all up into breakout groups now'), as this isn't always clear to the 'viewer'. If you don't, there will be some awkward silences/pauses during the session when you're clearly doing something, but the viewer is left in the dark. As stated above, this can cause extra stress for the students.*
- *Try to anticipate and prepare for technical problems. What are you going to do if you can't hear someone, if you can't see someone, or if you have a bad network connection? In other words, what's your plan B in case you run into IT problems?*
- *At the start of every online lecture, ask students to turn off as many 'distractions' as possible, including other online applications.*
- *Keep your lectures short. We recommend limiting online lectures to 15-20 minutes (Sluijsmans et al., 2020). It may be preferable to keep the synchronous part shorter and to supplement it with asynchronous parts, such as screencasts or other study material for the students to watch or read at their convenience.*
- *Include several short breaks. You can also plan extra breaks while you do something technical (e.g. set up a breakout group, compile the students' input on a digital notice board, etc.). Take a break at least every half hour. Also make sure that students have some time between online sessions organised by different lecturers.*

## Want to know more?

Couros, G. (2020). *The importance and impact of greetings in the virtual hallways*. Retrieved on 8 March 2021 from <https://georgecouros.ca/blog/archives/11626>

Pullen, J.M., Snow, C. (2007). Integrating synchronous and asynchronous internet distributed education for maximum effectiveness. *Education and Information Technologies*, 12, 137–148. <https://doi.org/10.1007/s10639-007-9035-7>

Rasheed, R. A., Kamsin, A., & Abdullah, N. A. (2020). Challenges in the online component of blended learning: A systematic review. *Computers & Education*, 144, 103701. <https://doi.org/10.1016/j.compedu.2019.103701>

Rubens, W. (2020, March). *Is live online communiceren meer vermoeiend/belastend dan face-to-face communiceren?* Retrieved on 17 February 2021 from <https://www.te-learning.nl/blog/is-live-online-communiceren-meer-vermoeiend-belastend-is-dan-face-to-face-communiceren/>

Rubens, W. (2020, June). *Asynchroon en synchroon online leren: voordelen en beperkingen*. Retrieved on 22 February 2021 from <https://youlearn.ou.nl/web/hulp-bij-online-onderwijs/blogs/-/blogs/asynchroon-en-synchroon-online-leren-voordelen-en-beperkingen/en>

Sluijsmans, D., Surma, T., Camp, G., Vanhoyweghen, K., Muijs, D. & P.A. Kirschner (2020, March). *Toolgericht of doelgericht*. Retrieved on 17 February 2021 from <https://www.scienceguide.nl/2020/03/toolgericht-of-doelgericht/>

Stephens, K. K., Mandhana, D. M., Kim, J. J., Li, X., Glowacki, E. M., Cruz, I. (2017). Reconceptualizing Communication Overload and Building a Theoretical Foundation. *Communication Theory*, 27, 269-289.

Van Petegem, P. (Red.) (2009). *Praktijkboek activerend hoger onderwijs*. Tielt: LannooCampus.

Centre of Expertise for  
Higher Education (ECHO)

Venusstraat 35

B - 2000 Antwerp

[echo@uantwerpen.be](mailto:echo@uantwerpen.be)

[www.uantwerpen.be/echo](http://www.uantwerpen.be/echo)





## ECHO Tips

- [ECHO Tips on online and blended education](#)

## Sources accessible only to UAntwerp staff

- [Teaching on campus and online](#): Pintra information with inspiration, didactic & technical support and tips on structuring your online teaching
- Good practices:
  - [Breakout groups Johanna Vanderstraeten1.pdf \(uantwerpen.be\)](#)
  - [Virtueel Practicum An Langbeen.pdf \(uantwerpen.be\)](#)
  - [Online vragensessie met BB Collaborate](#)
- Support for Blackboard Collaborate Ultra
  - [User manuals](#)
  - [FAQ](#)
  - [Weblecture crash course](#)
  - [Weblecture crash course: online seminar, practice session, group work with BB Collaborate Ultra](#)

**Centre of Expertise for  
Higher Education (ECHO)**

Venusstraat 35

B - 2000 Antwerp

[echo@uantwerpen.be](mailto:echo@uantwerpen.be)

[www.uantwerpen.be/echo](http://www.uantwerpen.be/echo)

