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Guidelines regarding online teaching

In general, teaching can be categorized into the following categories:

- Physical teaching
- Live online teaching streamed to a remote location
- Online on-demand teaching (Flipped learning)

Each form of teaching has its advantages and disadvantages. Traditional physical teaching at the blackboard allows students to follow the derivation and examples on the blackboard. The students have ample opportunity to ask follow-up questions and two-way communication is ensured. Live online teaching still allows students at the remote location to ask questions. However, there is a challenge in getting the technique to work in relation to getting sound and image through. It is often also demotivating for students to receive teaching from a remote location. For both traditional physical teaching and live online teaching, the students often refrain from asking questions. For example, if there are many students present in a large auditorium or if a delay in the video system makes it difficult to break in. The alternative is Flipped learning, where the teaching is recorded in advance and where questions can only be asked afterwards. The advantage of Flipped learning is the great flexibility it offers as students can watch the teaching when they have time for it (on-demand) and they can review the lecture if necessary. The time spent with the students can, for example, be used for Q&A and more time for exercises.

Physical teaching at a remote location

Teaching at a remote location with physical presence can best be planned by grouping the teaching sessions so that unnecessary transport is avoided. A good way is to spread the teaching over 2 days. On the first day, the teacher drives to the remote location in the morning and gives lessons in the afternoon. The teacher spends the night at the remote location and has another teaching module in the morning the next day. The teacher then drives home in the afternoon on day two. In this way, double lectures are avoided. It is possible for teachers to work on the train if you use public transport. It is noted that students are often positive about physical teaching, but the disadvantage is of course the extra time and financial resources that are used.

Live online teaching streamed to a remote location

The first alternative to physical teaching is often to stream the teaching to the remote location. Lecturers must be aware that this requires further preparation and adaptation of the format of the teaching.

Connection type

Consider which connection type to use:

	Teaching with video conference system	Teaching with MS Teams or AAU Zoom
Possibility of recording teaching	No	Yes
Document camera	Yes	No*
Requires person at call location	Yes	Yes
Students can sit in a group room or at home	No	Yes
Use of drawing board/tablet	Yes	Yes

*The document camera is by default connected via the call function.

See guides: https://www.its.aau.dk/vejledninger/undervisning-med-videokonference

Preparation

– Make sure you have an appointment with an assistant teacher or student to take the call.
– Test the setup, microphone, document camera/drawing board in advance, e.g. the day before.
– Adapt teaching to online teaching. For example, avoid using a blackboard and do not use a physical pointer.

Sound

– It is recommended to use a headset or other dedicated microphone to ensure the best possible sound quality.
– It is not recommended to use a room microphone when teaching, either at a local or remote location.
– Instead, students at the remote location can send questions in writing, e.g. via MS Teams. Possibly a local student can be appointed to monitor the chat.

Image

– It is recommended that the lecturer is stationary so that he/she does not move in and out of the picture.
– Avoid using blackboards and physical whiteboards. We have had countless complaints that the remote location cannot see the writing on the board due to poor image quality.
– As an alternative to presentation on the board, it is recommended to use digital aids that can project writing directly to the remote location:
    o Document camera (Visualizer) is found in many classrooms. It can be used with ordinary pen and paper.
    o Drawing board/Tablet (Wacom) can be borrowed from the study office. It can be connected to your own laptop, and you draw with a digital pen. You can also use your own laptop/tablet with a pressure-sensitive screen, e.g. Surface.
    o You can write directly on PP slides or PDF slides. You can also use dedicated drawing pro-grams such as MS Whiteboard.
– Avoid using a mouse to write with, as the quality of the text deteriorates.

<u>Recording</u>

–   If you record streamed teaching, make sure that students are informed about it when the teaching starts. Streamed teaching can be made available to the students afterwards on a channel in MS Teams/Zoom, it can be available on the course's moodle page, it can be streamed via a private channel on Youtube.
–   Students are increasingly requesting recordings of teaching so that they can review the lecture and so that they can watch the lecture if they are prevented from attending physically. Students cannot demand that the lecture is recorded.

Online on-demand teaching (Flipped learning)

Recording teaching in advance opens to the possibility of reviewing and editing the recording. The recording can be enriched with annotation, small clips from other source, recordings of experiments, etc. By recording the lecture in advance, you can ensure that sound and picture quality are of acceptable quality. Technical problems are effectively eliminated, and the students can watch the lessons whenever they want and revisit the lessons. The confrontation time can be used to answer questions from the students in connection with a Q&A session or during problem solving. Instead of using the confrontation time at the blackboard, the time freed up can be used to extend the time used with the students. It does takes time to produce a high-quality video, but the video can be reused in subsequent years once recorded. It is easy if you try!

AAU supports the production of teaching material via CDUL's production unit. You can also easily record your own videos using Panopto, Camtasia or other software of your choice. You can use the camera in a mobile phone to record in front of the whiteboard or use a headset and a webcam. The possibilities are many.

Resources for Educators

https://www.cdul.aau.dk/

https://www.its.aau.dk/vejledninger/vejledninger-for-undervisere

https://www.wacom.com/en-us/discover/elearning

https://educate.au.dk/it-i-undervisningen/video-i-undervisningen/guide-videoer-i-undervisningen