Handout Online Teaching
// DHBW Mosbach / Education Support Center
January 2021

Thanks to the Internet, we can also design teaching beyond face-to-face events at the university and support and accompany students in the learning process.

With this handout, we would like to present didactic and methodological options for designing online teaching: "Online teaching is what you make of it.

1 Synchronous and asynchronous teaching scenarios

We distinguish between synchronous and asynchronous scenarios in online teaching:

- **Synchronous:** Teaching and learning take place collaboratively and simultaneously (e.g. in chat or a web conference)
- **Asynchronous:** teaching and learning processes are decoupled in terms of time (e.g. provision of teaching videos or discussion in a forum on Moodle)

We recommend that you use a **predominantly asynchronous teaching strategy**. If necessary, supplemented by synchronous elements. This ensures that you are not dependent on server capacities and systems that are subject to possible outages due to excessive utilization (e.g. in the case of a lecture via web conferencing system). At the same time, your students do not sit in front of a live stream for many hours a day, but learn more actively and thus more effectively.

1.1 Your duties as a teacher

As a teacher, you have the task in both face-to-face and online teaching of organizing your course in terms of the sequence of events, providing the learning content for the students, activating the students to work with or develop learning content, and supervising them in the process.
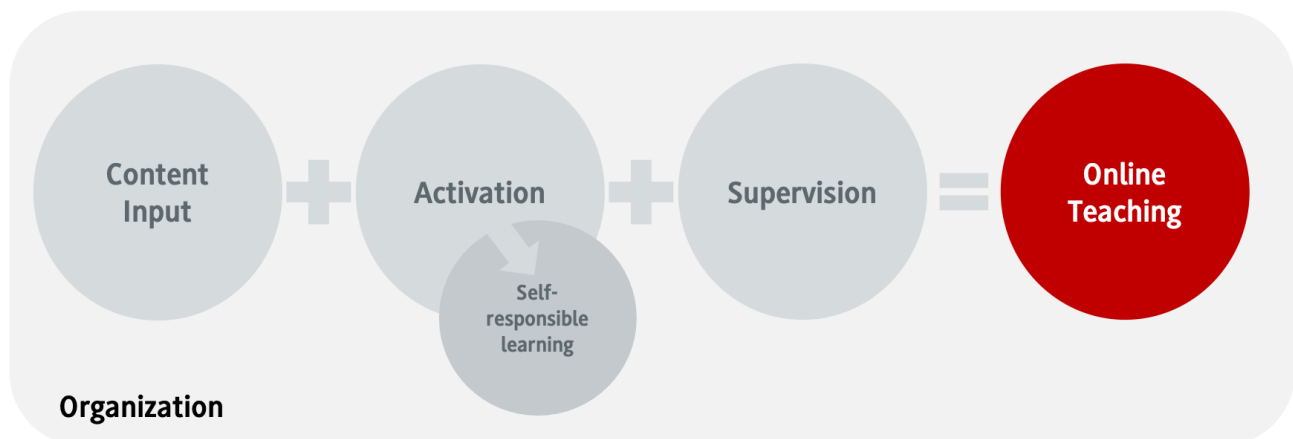
You decide how you want to structure the timing between content transfer, activation and support.

The general rule is: convey your content in **as granular a way as possible, alternating with activating moments**. This applies equally to asynchronous scenarios and synchronous scenarios.

In the context of a predominantly asynchronous online course with occasional synchronous elements, a simple timing could look as follows:
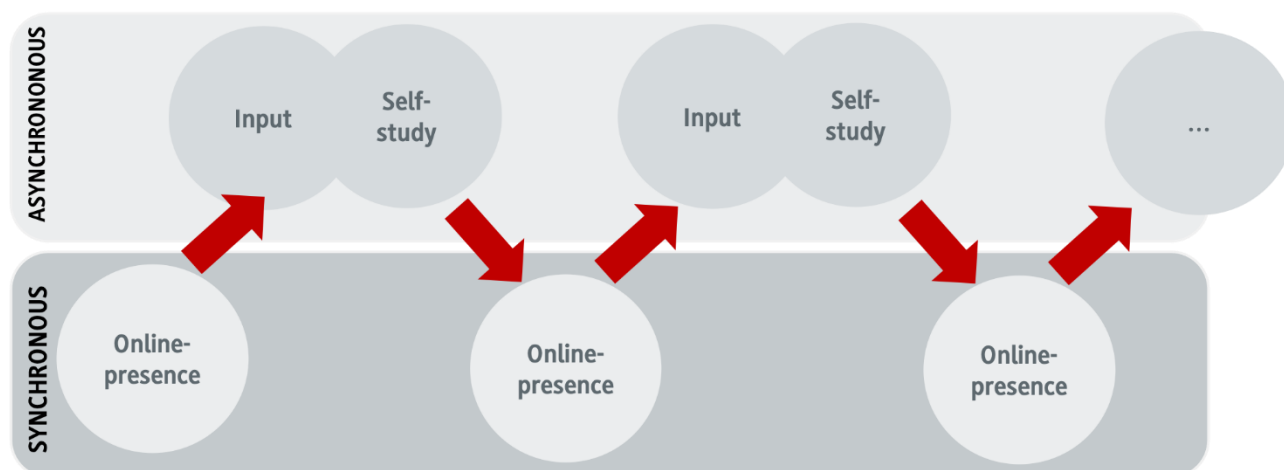
1.2 Supervision - the key to online teaching

Any activating online teaching relies on students working independently in phases. This can be done in individual or group work. You, as the teacher, must prepare and supervise these phases in particular. Your supervision is a central element in online teaching.

Support can take place directly in the form of concrete support offerings such as synchronous consultation hours (via chat or web conference) or in asynchronous discussion or question forums. However, it is also important to provide indirect support for students by means of a clear, unambiguous **schedule** for the course that is provided in advance, clearly and unambiguously formulated **learning assignments**, and clear **communication** and specification of the form in which students can approach you with questions.

1.3 Overview: Phases of an online course

After you have structured and planned your teaching material in as granular a way as possible, note the phases in which an online course usually proceeds:

PHASES OF THE DESIGN OF AN ONLINE COURSE AND RELATED TASKS OF THE TEACHER-COURSE

1. ACCESS AND MOTIVATION	• Set up a clear and well-structured Moodle course room and let students access it. • Invite students to view the course room and use the material there and to contact you if they have any questions (e.g. via a question forum). Inform about accessibility, response time, and possibly telephone office hours. • Create a personal atmosphere in the virtual space as well. Post a profile picture in Moodle. Introduce yourself if the students do not know you (e.g. with a short audio file).
2. ONLINE SOCIALIZATION	• Help students become familiar with your online event: o Provide a concrete schedule and learning assignments. o Let students know which online tools you use and for which purpose.

3. INFORMATION EXCHANGE AND KNOWLEDGE CONSTRUCTION	- Actively support the use of the learning material provided by specifically pointing it out to the students, e.g. through regular announcements and explicit learning assignments (You now have Zurgiff, please read/answer....) as well as through your corresponding feedback on submitted work or forum contributions. - Combine learning material with activating methods and thus promote the active knowledge construction of the learners. Group work (e.g. in group-specific forums or wikis) is also suitable here. - Support self-organized and cooperative learning processes and discuss and clarify questions and answers together.
4. PRESENTATION OF RESULTS	Have students post learning and work results in the Moodle course room for discussion and reflect on open questions and problems together with them. For example, in the forum, a chat or a web conference.
5. DEVELOPMENT	Encourage reflection on learning processes through appropriate methods and plan further learning objectives and pathways.

Below are several scenarios that can give you ideas for your design.

1.4 Examples of asynchronous teaching scenarios with learning assignments

1.4.1 Asynchronous papers/presentations (as text file or podcast)

Students will receive literature from you (use e-books and use the DOI link from the library) and other materials on a particular topic. Students can sign up individually or as a group for presentation slots in this section and then prepare a presentation on the topic at home. This presentation (as a PDF file or set to music or video) will be made available online to other students. The fellow students can then ask questions online about the presentations, which will be answered by the topic owners and the teacher. You as the instructor can decide whether to release the presentation to everyone before making it available. The presentation can also take place online as part of a web conference.

1.4.2 Creation of transcripts

Students will receive various lecture recordings from you (self-created, Youtube videos or other free lecture recordings). Each student (or a pre-assigned group) receives a topic. The respective topic owner has the task to make a transcript of the lecture or the individual videos and to make it available to the fellow students. The fellow students can then ask questions online, which will be answered by the topic owner and the teacher. You as the teacher can decide whether you want to release the transcript to everyone before making it available. There can be individual transcript files or a shared wiki.

1.4.3 Virtual group tasks

Students choose their group/topic. Everyone works on a common document, or in the wiki (even better: here it is directly traceable through the storage of the various histories, when who did what). The exchange of information takes place asynchronously via a forum - the writing of the document could be an obligatory part, so that teachers have the possibility to join in if necessary or by appointment.

The dilemma of a group work: One person has completed it and three have to be evaluated. A concrete distribution of roles would be a possibility here: the group documents who has taken on which (possibly predefined) role: e.g. research, processing of various subtopics, graphics, reviewer, etc. The role and its challenges could also be briefly described. In addition, the role and its challenges could be briefly reflected on in writing.

1.4.4 Peer-Feedback

An assignment to be completed must be uploaded anonymously by a certain time. Each student must now select two assignments to be evaluated. In order to get differentiated feedback, a criteria catalog in the form of an evaluation template and the request for complete sentences instead of bullet points is necessary. As soon as everyone has handed in their feedback on time, you as the teacher will give two more feedbacks: a) a general one on the work done, in which all criteria are listed again, possibly frequently occurring strengths/weaknesses are named, etc. In this way, students have a benchmark again. In this way, students have another benchmark by which they can roughly classify themselves. For the students it is important to get this evaluation from a "higher authority" (what do the fellow students know, eh?) b) one thing related to the peer feedbacks: were they constructive, too "nice"/strict, etc.?

1.4.5 Have questions formulated on a topic

Students choose their group/topic. All work on a shared document or in the wiki (even better: here you can directly trace who did what). Using the learning objectives taxonomy, have students formulate two questions for each of the different knowledge dimensions/levels.

For example, the work assignment could be "Create a practice exam that covers the topic in breadth and depth". You can collect the questions in a forum or have them sent to you through the upload function. In turn, the questions could be graded by each other in the form of peer feedback. These questions can then be posted in Moodle as an online practice exam. But you could also offer to use a certain percentage of questions from this pool in an upcoming exam.

2 Moodle tools and their function

2.1 General information

In order to be able to use Moodle's tools relevant for activating students in a targeted way, you should already be familiar with some basic functions when working in your course room:

Mo Moodle Basic Skills Check: Are you able to do the following in Moodle?

- ✓ Enable/disable editing
- ✓ Upload files to your course room
- ✓ Create text fields and pages
- ✓ Create sections
- ✓ move, edit and make visible/invisible
  individual activities and/or sections
- ✓ Using the forum for announcements

Should you not yet have mastered these Moodle basics, please contact the Moodle team via moodle@mosbach.dhbw.de so that we can provide you with targeted support in getting started.

The Moodle tools listed below give a first impression of possibilities to support online teaching. We have classified the tools according to their level of difficulty in relation to the configuration by you as Moodle users.

As a rule of thumb: the more configuration options a tool has, the more challenging it is to implement. Plan a certain run-up time before using a tool for the first time in order to familiarize yourself with the configuration options, to check functionality and to be able to make improvements if necessary.

Remember: What is important in the successful use of Moodle tools is not the sheer number of learning materials and activities in a course room, but the didactic concept on which their use is based. Each learning activity in Moodle must have a clear purpose in the teaching/learning process.

In the following, selected tools and their use are presented. A detailed overview with further possible applications can be found here.

2.2 Tools for beginners

You are a beginner if you have mastered the basic knowledge from point 2.1. Use the following Moodle tools to get started:

What?	What for?
File	Providing scripts, handouts, presentations, but also e.g. Excel files with data on the basis of which exercises can be calculated
Link/URL	Insert links to content on the web such as books, online articles, and videos.
Forum	Possibility for students to ask questions that can be answered by the teacher or each other, exchange of small (!) files (e.g. PDF) that are also visible for fellow students *Note: unlike the announcement forum, this is a question and answer forum for communication where students not only receive information, but also respond and communicate.*
Assignment	Upload of documents by students that can only be seen by the instructor (e.g. essays, excel spreadsheets with calculations, .txt files with program codes, etc) and that can be commented on and graded by the instructor if needed.

Example scenario for beginners:

The students receive a provided Excel file with data sets that are to be statistically analyzed. As an aid, you will receive a PDF file with a formulated, clear task and a link to a YouTube video with an example calculation. Students are encouraged to exchange ideas via the forum if they encounter problems. The instructor supports the exchange among students and provides clear solution instructions only when necessary. The solution file is to be uploaded by the students at a fixed and clearly communicated deadline via the activity Task. They will then receive feedback via comments in the submission view.

Welcome to the course room for Course XY.

In the case of questions concerning organizational matters or the content of the course, please always use the questions forum.

Current information will be posted to the announcements forum - these messages will also be forwarded to your DHBW e-mail.

I wish you successful studies!

- Announcements
- Q & A Forum
- Syllabus
- Module Description

Week 1
- Literature Week 1
- Questions - Literature Week 1

  This file contains the questions for the literature of week 1.

  Please observe the according instructions. Formulate your answers below the question texts.

Week 2
- Literature Week 2
- Task
- Data records

  Carefully read this week's literature and the task.

  Complete the tasks using the already entered data records in the table.

- Submission Week 1

  Upload the excel file containing your solutions by **April 27th, 2021**.

- Link to explanatory video: Statistical Analysis 1

2.3   Various activation methods using Moodle tools

If you feel confident enough in using Moodle and want to implement new concepts, Moodle offers you further possibilities for this. Keep in mind the complexity of the different tools:

Easy to configure and use. Suitable for beginners with some lead time and all experienced users.

Somewhat challenging configuration, takes time to create, configure and use

Demanding configuration, technical understanding also useful beyond the use of Moodle. When used for the first time, may require a lot of time for training, creation and testing, as well as resources for subsequent use by the teacher (and possibly also the students).

2.3.1   Check & activate prior knowledge

Flash in the forum: You ask a short question or ask for associations to a term and all students answer with one or two sentences in the forum. For several questions you can create several topics in the forum and possibly also divide groups, who works on which questions. There should be no discussion at first. You can have this discussion later in the online meeting.
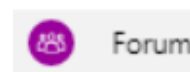
Forum

Pro and Con: You pose a provocative question or thesis that has two main sides. In the forum, have students collect pro arguments in one topic and con arguments in another. Additionally, you can collect the best arguments and have students vote on the best arguments afterwards using the Moodle method "voting".

Choice
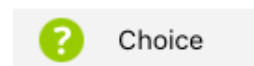
Quiz: You create a short quiz using the "Quiz" activity that shows students the correct answers directly. You can use the evaluation later to address students' knowledge gaps in more depth.

Quiz

2.3.2 Convey knowledge

Discussed PowerPoint presentation: You record your presentation as video with voice recording (integrated in Powerpooint). Adding a small webcam image is optional. For posting in Moodle, please contact moodle@mosbach.dhbw.de.. A maximum length of 15-20 minutes is recommended. For longer presentations, simply create two videos. During or at the end of the presentation, you can formulate work assignments for the students.
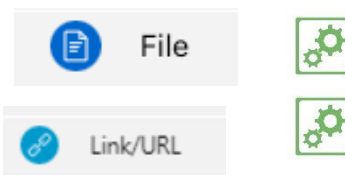
Podcast: You record audio spoken via smartphone or PC. Here, make sure to provide students with a clear structure by clearly stating what the topic of each episode is and how it is structured. A maximum length of 20-30 minutes is recommended here.
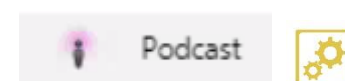
Please note the size of the created file. If they are bigger than 20MB please contact moodle@mosbach.dhbw.de - if they are bigger than 50MB this is mandatory!

2.3.3 Self study

Online research: You compile a list of links for your students with thematically appropriate videos, podcasts and texts. The students receive a work assignment (complex question) and possibly a ready-made worksheet in which the findings are entered. A feedback activity is recommended afterwards to compare the results.
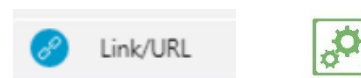
Forum Discussion: You pose a controversial question or thesis. The students discuss this in detail in the forum. You act as a moderator and can steer the discussion a bit with your contributions if necessary or restart it if it gets bogged down.
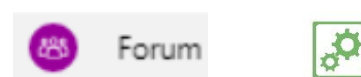
Wiki: You ormulate several questions or central concepts on the current topic. The students work independently on the topic and answer the questions in the form of a wiki contribution with indication of the sources. You can let each student create his or her own or assign groups (e.g. with the Moodle tool "group choice") to create a contribution together.

2.3.4   Conduct student presentations and papers

Digital presentation: Students use the same methods that you use to impart knowledge (e.g. PowerPoint presentation set to music, instructional video or podcast). You, as the instructor, receive the material first for review and post it online. You correct errors in a comment on the respective material and/or discuss them with a short time delay (possibly only one or two days) in an online presence phase.

Explainer video: Students will create a short and concise explainer video (3-5 minutes), such as whiteboard or comic book style, using a tool of your choice. To avoid errors, completion will occur only after you have given final approval to the associated script. It is recommended that you allow at least four weeks for editing

For both methods:

You can have students assign unit groups via the activity "Group choice" or have them generated automatically at random.

For queries of unit groups you can offer online consultation hours via web conference.

Please note the size of the created file. If they are bigger than 20MB please contact moodle@mosbach.dhbw.de - if they are bigger than 50MB this is mandatory!

2.3.5 Testing knowledge

Task: You provide exercise tasks or similar via the Moodle activity "Task". The students have to submit the solutions within a given period of time and receive feedback from you. The latter can be done automatically depending on the assignment, for example by providing a solution file after submission.

Quiz: You create a quiz using the "Test" activity. You can set automatic limits for passing* and make passing* a prerequisite for new content.

*Passing is not understood here as an examination performance.
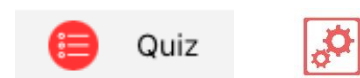
2.3.6 Feedback and exchange

Feedback form: You create a short questionnaire using the Moodle activity "Feedback". In contrast to the activity "Quiz", there are no right or wrong answers. Rather, you can get feedback from your students (anonymous or by name), for example, to adjust your teaching concept or to deepen content once again.
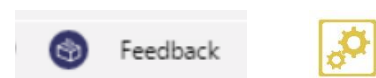
Choice: You ask a specific question (e.g., "What content should we go over again in the online meeting?") and students vote on given answer choices.
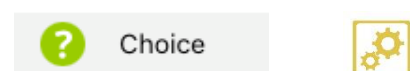
3 Web conferencing

In the context of online teaching, you may also want to use occasional synchronous elements such as conducting "web conferences."

3.1 Preparation

Ask the students to enter the room approx. 10 to 15 minutes before the start and to perform the audio/microphone test and the video transmission in advance. This will allow you to start on time and resolve any technical difficulties before the web conference/online lecture begins. If you wish, you can welcome all new students individually during this time and conduct a short microphone test with each of them individually. This will also lower students' inhibitions about speaking up later.

You, as well as the students, should adhere to the following etiquette:

1. **I am prepared technically and in terms of content..**
2. **I am in a quiet place without disturbances.**
3. **I mute my microphone and activate it only when I have the floor.**
4. **I have carried out the technical check before the start of the meeting and am ready on time.**
5. **If I have to enter a name when entering the meeting room, I enter my first and last name.**
6. **I let others finish, keep my remarks brief and speak clearly.**
7. **I do not do anything on the side.**
8. **I ask questions if I do not understand something.**

3.2 Camera, microphone and chat

In phases where you are presenting yourself and sharing your screen, streaming student videos is not generally useful. During discussions, active participation, and requests to speak, it is recommended that students have their webcams turned on. This results in a higher level of engagement and facilitates interactions. As a rule, the microphone should be set to mute. Only the person speaking turns it on. This will help you avoid noise interference (e.g., from keyboard or feedback). Ask students to speak by a show of hands. You can then allow the students to speak at a time. You or the students then unmute the microphone.

Ask students to use chat sparingly, as it has great distraction potential.

3.3 Organization and timing

Advance information: Announce the dates and also the access routes for the web conference/online lecture in good time on Moodle, e.g. in the announcement forum. Use the activities there to prepare possible discussions or question sessions. Let the students know at the beginning of the online meeting how you have planned the schedule.

Moderation: If necessary, ask a student to support you as moderator, e.g. the course speaker. This person can alert you when there are requests to speak or questions in the chat and support you in case of technical difficulties. Especially if you only have one screen, this can be very helpful.

Duration and breaks: Make sure that the online meetings are not too long and that there are sufficient breaks. As a rule of thumb, students should have a maximum of 2x 90min total with a 30min break live online. Or rather have more frequent, but short breaks.

Virtual group rooms: If you are working with virtual group rooms (if the software you are using does not offer this, map group work via Moodle), either divide the students into appropriate groups beforehand via Moodle (e.g. via the activity "Group selection") or ask the students to divide themselves evenly into the groups spontaneously. Agree on a fixed time when everyone should re-enter the main room. For longer group periods, it is recommended to allow a buffer of five minutes. "Visit the groups in the sub-rooms before the time is up to remind them of the time limit and answer any questions they may have.

3.4   Activation of students

Pause screen sharing for questions or discussions. This way, the webcam images are in the foreground, which in turn facilitates interaction. Address students directly when asking questions ("Ms. Schmitt, what do you mean...?") so that the question does not go nowhere. When asking open-ended questions, ask students for a show of hands and then ask students to speak by name to avoid having multiple students turn on their microphone at the same time.

When giving a lecture or presentation, make sure that it is dialogic - even if you do not expect verbal responses. For example, include questions that target students' prior knowledge and encourage them to think ("Do you remember the four methods of...?"). Estimates are also a good way to actively engage students in your presentation ("How many people do you think annually...?"). Incorporate the survey tool you created in advance (not available in all systems.).

Use the option of group rooms. This way, students who are more reserved in the main room will also participate. Also have students present and share the screen. Either the students have already received appropriate work instructions for this in advance or the results from the virtual work groups are presented. Include some playful elements, such as technical term bingo. Here, the students write down nine technical terms on a sheet of paper (3x3). Whoever has a row full holds their paper up to the camera. Possibly link this with a certain reward (e.g. choosing a date for a presentation).

3.5   Possible teaching formats for the synchronous online lecture

When it comes to live online teaching, don't just think of the classic frontal lecture or presentation. Other formats can also be implemented in the virtual space. Here are a few ideas:

Virtual working groups: You give a short input (5-15 minutes) and a corresponding work assignment. The students distribute themselves to the group rooms, work on the tasks there together in a small group in a given time window (up to 60 minutes). You as the moderator can "visit" each group and possibly answer questions. Afterwards, the results are presented in the main room.

Focused discussion: You make a certain material available on Moodle in advance (e.g. a video, an interview, an article). The students are given the task of viewing this material with a certain focus (e.g. one group from the entrepreneur's point of view, the other from the customer's point of view, or one group sympathetically, the other critically). In the virtual room, you now let the students discuss with each other from their respective points of view. You act as moderator and keep the discussion going by repeatedly introducing questions or theses into the discussion. Finally, you can summarize the most important arguments and the quintessence of the discussion.

Virtual Think-Pair-Share: Students work independently on a given material in advance. In the virtual room, you sketch out a problem that relates to the material you have worked on. The students are now given time to think through the problem on their own (think). Then they discuss the problem in pairs in the group rooms (Pair). Then you appoint one or two students as moderators who lead the discussion in the main room, record the (intermediate) results and ask questions. They keep a low profile and intervene only when necessary. Finally, you point out the "red thread" of the discussion and ensure that the results are appropriately secured.

Expert panel: Use the low-threshold opportunity to participate in an online meeting to invite experts to the virtual room (technically possible via invitation link). You can have the students prepare questions in advance and/or ask the expert to give a short presentation. After you have said goodbye to your guest, you can follow up the meeting with the students and place it in the context of the course.

Flipped Exam: The students think about possible exam questions in advance. They ask these (e.g. in the last online meeting before the exam) to you as the teacher. Afterwards, you can let the students vote by show of hands whether you have objected.

Presentation of results by students: Have students give papers or presentations live in the virtual room. Assign them the moderator role for this session and have them share the screen. Afterwards, you can discuss the presentation in the plenary session in the classic way.

Your ESC team wishes you great success in your teaching.