# Introduction to Teaching and Learning

**Content from the Online Module** 



# TABLE OF CONTENTS

1 2 3
4 5 7 10 12 14 17 19
22
24
25
29
31
35
37
43
44
46
48
49
51
53
55
58
60
63
66
70
72
75
79

## Find your educational developer

At all four faculties at Aarhus University you find a center dedicated to professional development of educators. You can read more about the module at the AU Educational Development Network webpage: <u>http://upnet.au.dk/introduction-to-teaching-and-learning/</u>

Below you find a link to the four centers:

Arts:	Centre for Teaching Development and Digital Media(CUDIM) <u>www.tdm.au.dk</u>
Aarhus BSS:	Centre for Teaching and Learning (CUL) www.cul.au.dk
Health:	Centre for Health Sciences Education (CESU) <u>www.cesu.au.dk</u>
Science and Technology:	ST Learning Lab (STLL) <u>www.stll.au.dk</u>

## **About InTeL**

'Introduction to Teaching and Learning' (InTeL) is the result of an ambition to improve teaching and learning university-wide by providing a basic introduction to teaching and learning to all educators at Aarhus University (AU) across all career levels, subject areas and teaching activities. Offered two times per year, the course is designed to be highly flexible with regards to time, place, and pace so that it fits any educator's busy schedule.

### **Design and content**

The focus and content of the module has been chosen in cooperation between the educational development units at AU in order to ensure relevance to all the aforementioned educators, and each of the content items has been developed by local experts within the topics and then peer reviewed. In addition, the course design has been subject to a cognitive walkthrough in order to weed out usability issues. The underlying design principles of the course are further described in the article <u>'Introduction to Teaching and Learning (InTeL) - Efficient Professional Development Throughout a University' by Mikkel Godsk and Linda Greve.</u>

### **Organisation and credits**

The module has been developed in a joint venture between the four educational development units: CTL (Centre for Teaching and Learning, Aarhus BSS), STLL (Science and Technology Learning Lab, Science and Technology), CESU (Centre for Health Science Education, Health), and CUDiM (Centre for Educational Development and Digital Media, Arts), with two representatives for each unit in the project group. The current editorial board is listed below:



Mikkel Godsk Team Leader EdD, MSc., STLL – Science and Technology



Karen Louise Møller Special Consultant, MSc., MIL CUDiM – Arts



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## Welcome to InTeL

The module Introduction to Teaching and Learning is designed to provide new educators at Aarhus University (AU) with fundamental principles and knowledge of teaching and learning. Upon completion, you will have designed a lesson plan ready to be used in your own teaching practice. Educational developers from all four faculties have contributed to the content, and e- moderators are ready to guide you through the course. We ensure high academic quality in combination with the opportunity to develop a specific lesson plan for your students.

This booklet is the text material from the online course InTeL. In order to achieve the course diploma, you will have to attend and finish the online course. However, this booklet may serve as an encyclopedia to your future educator practice. The booklet is



Upon completion of the course, you will be able to:

- Identify elements in your own teaching which can be developed in order to enhance student learning
- Apply a pedagogical principle or tool to the identified element
- Argue briefly how the chosen principle or tool is expected to enhance student learning

structured like the course. First you find a mandatory course path introducing to the fundamental of teaching and learning.

Following the course path, you find four themes introducing you to four genres of teaching; lecturing, small class teaching, laboratory teaching and clinical teaching.

After the themes you find a number of related items providing advice and ideas to different aspects of teaching and learning.

Start out by watching the video below. Prorector, Professor Berit Eika, tells a little about the purpose and thoughts behind the course. All participants of the InTeL course have access to all the videos on the course site in Blackboard.



## **COURSE PATH**

## **Quality in Teaching**

Good teaching helps students learn what we expect them to learn. It presupposes educators who deeply know their subject. This is the main reason for having research based teaching at Danish universities.

### By Peter Musaeus, Tina Bering Keiding and Ole Eggers Bjælde

Five principles have proven particularly important for assessing quality in teaching (Biggs & Tang, 2011; Helmke, 2013). Your teaching is most likely to support students' learning when it is characterized by (1) clarity and structure, (2) expansion of students' knowledge, (3) a positive learning environment, (4) variation in activities, and (5) opportunities for students to practice.

The table below outlines the five indicators for quality in teaching and provides examples of how the teacher can plan for quality. All of the elements mentioned will be explained in much more detail below and you are encouraged to critically assess and apply them in your own teaching.

Quality in teaching:		How to create quality:
1.	Is characterized by <b>clarity and</b>	How to create clarity and structure.
	structure, which are associated	Use the goal and learning outcomes of the
	with clear and explicit learning	course to clarify the expected learning
	outcomes and alignment between	outcomes.
	outcomes, content and methods.	Link the topics and activities to specific
	An essential aspect of clarity and	learning outcomes.
	structure is that the educator	Ensure clarity and structure by making
	communicates to the students not	well- organized teaching sessions and by
	only the rationale behind what they	structuring content and explicitly making
	should learn, but also how to work	smooth shifts between topics and
	with the content. Quality teaching	activities.
	includes planning both in-class and	Be aware of genuine learning time. A 10
	out-of-class learning activities.	ECTS course entails approximately 270
		student-working hours. Think about how
		the students should work with the content
		between the lessons. Moreover, tell them
		how.
2.	Builds on what the students	How to build <b>on students' existing</b>
	already know. The educator	knowledge.
	should help the students construct	Check where the course is placed in the
	new knowledge by building on	study program.
	existing knowledge.	Probe students' existing knowledge in your

first encounter with them (asking questions) or through activities in Blackboard (e.g. tests, discussion boards or other means such as interviewing students or other stakeholders) Relate your teaching (content and methods) to their existing knowledge and educational experiences.

How to create a **positive learning** 

environment.

3. Is characterized by **a positive learning environment.** This means mutual respect, fairness, and a safe environment where both students and educator dare to make mistakes.

- 4. Is characterized by **engaging and diverse activities**. This is true for all types of teaching: lectures, exercises, labs, etc.
- Show genuine interest in the students' learning process. Indicate that you value all contributions. Use mistakes productively in the classroom. Design activities where students discuss and explore different types of errors. Use collaborative activities to expand the time on the task and to produce a community of learning. How to create **engagement and diversity in activities.** Make it clear how to succeed in this course.

Explain the relevance of the teaching activities. Ensure that students work with the material in a variety of activities. Clarify how the different activities employed in the course (student presentations, in-class discussion, assignments and exercises, peer- feedback) relate to the learning outcomes and assessment.

5. Is characterized by opportunities
for students to practice what
they have learned e.g. through
applying, rehearsing and receiving
feedback.

How to give students **opportunities to practice what they have learned**. Give students feedback on tasks. Let students give each other peer feedback. Make self-paced self-assessment possible (e.g. quizzes and learning paths in Blackboard).

### Learning outcomes

Learning outcomes play an important role in quality teaching, and at Aarhus University they are an integral part of the course description. As an educator, you can use the learning outcomes as a 'contract' between you and the students.

### By Annika Büchert Lindberg, Pernille Maj Svendsen and Tina Bering Keiding

The learning outcomes serve three functions: (1) they explicate what the students should learn, and hence help them to take responsibility for their learning process; (2) they serve as a point of departure for assessment and grading, and (3) they outline a field of relevant teaching activities. The learning outcomes describe what the student has to learn and not what the educator has to teach.

### What is a learning outcome?

For students to appreciate your teaching, it is important that you have a mutual understanding of what they should learn during your course. As researchers and educators, we often share tacit knowledge about how to recognize whether students understand our subject at an appropriate level. We may silently agree that students should be able to analyse and explain a given concept. The students, however, do not share our academic tradition, and they may think that they should be able to name and recite in order to demonstrate that they master the subject.

It is difficult to take responsibility for something that you cannot imagine:



"If you don't know where you are going, any road will take you there" - Lewis Caroll

Therefore, it is essential that we clearly communicate our expectations and performance criteria to the students. The course learning outcomes should reflect these expectations and criteria.

All courses at AU have learning goals and/or learning outcomes. As an educator, you have to

know and use the learning outcomes actively in designing teaching activities. There is a distinction between learning goals and learning outcomes.

**Learning goals** are broad statements about the overall purpose of the course. They answer questions like: Why are we offering this course? What will the student learn in the course? Example of a learning goal: The course is designed to give the students an understanding of the scientific method of inquiry, including accurate measurement based on observation and the use of controlled experiments.

**Learning outcomes** are specific statements which describe what students must know and be able to do in order to demonstrate that they have reached the level of mastery that is intended. Referring to the goal above, the outcomes describe how the student will demonstrate an understanding of the scientific method.

A learning outcome consists of **a verb** and **a noun**.

- The **verb(s)** specifies the level of complexity and/or degrees of mastery at which knowledge, skills and competences must be demonstrated.
- The **noun(s)** specifies the topic in relation to which the performance must be demonstrated

The student must be able to:

- formulate a research question
- design a controlled experiment
- evaluate a research design

If the learning outcomes are very abstract, you will help the students by formulating more concrete examples of the aimed performance level.

Example: Formulating a research question might involve more than just writing a question. It might include clarifying how the new knowledge relates to current research. And designing a controlled experiment might imply that the students can explain what a controlled experiment is.

### Taxonomies

Students must demonstrate knowledge, skills and competences with increasing complexity and/or mastery as they progress through the curriculum or programme. Taxonomies offer a system of verbs that expresses different levels of knowledge, skills and competences. One of the most commonly used taxonomies at AU is the SOLO taxonomy. SOLO stands for Structure of the Observed Learning Outcome (SOLO). The SOLO taxonomy is divided into five levels. Each level progresses from the previous one and it is identified by a number of verbs.

To establish the taxonomic level of a course it is helpful to look at the verbs in the learning

outcomes and compare them to the verbs in the SOLO taxonomy. This will give both you and the students important insight into the level of knowledge, skills and competencies they are expected to reach.



The SOLO taxonomy as illustrated by Biggs and Collis (1982)

### Learning outcomes in teaching and learning

Not only do learning outcomes describe what content students should learn, but they also inform students how to do it.

<u>For example:</u> If students should be able to "Describe prokaryotic and eukaryote cells" or to systematically point out similarities and differences by "Describe and compare prokaryotic cells with eukaryotic cells" which is more complicated?

Learning outcomes outline relevant teaching activities to some degree. If an outcome uses the verb "apply", you must incorporate activities where students learn how to apply. This can of course be done in different ways (through assignments and case-based teaching or solving research or real-world problems). But is it not likely that the students will learn to apply merely from listening to lectures.

Explain and discuss your learning outcomes with your students at regular intervals throughout your course.

### Alignment

## Students are more likely to engage in your course if they conceive your teaching as relevant to their desired learning outcome and performance at the exam. This is what is referred to as alignment.

### By Kim Jesper Herrmann

The concept of alignment is concerned with the relationship between (1) what you want the students to learn (learning outcomes), (2) how students engage in learning activities (in and out of class), and (3) how students are assessed. Your course is aligned when the learning outcomes are in fact mirrored in the assessment criteria, and when the students' learning activities – in and out of class – are likely to lead them to the desired learning outcomes.

### The problem of non-alignment

Imagine being a student again. And imagine taking a course (any university course you can think of). You may have skimmed the formal learning outcomes, but most likely you understand very little of what they imply. You do know, however, that at the end of the course you will have to take a two-hour multiple-choice test. And thus, you do what most university students find to be a sensible strategy given the circumstances: you start to memorize key concepts by heart and maybe you start building up a comprehensive set of notes.

Now, take the educator's perspective. Memorizing key concepts by heart or taking comprehensive notes is not a problem per se, so you need not worry. However, chances are that you also want your students to be able to discuss and compare concepts, or maybe it is of the utmost importance that the students learn to apply their knowledge. Now you have a problem! A problem of alignment.

In other words, if you find it important that your students can describe key aspects of quantum mechanics (learning outcomes), then you would be well advised to give students assignments in which they are to describe key aspects of quantum mechanics (learning activities). It would also be wise to choose an examination format in which the students' ability to describe key aspects of quantum mechanics becomes apparent (assessment). At the conceptual level, this is deceivingly simple. In reality, it is not.

### Advice on achieving alignment

- Invest time in writing down the key learning outcomes of your course. What are the exciting things students will be able to do once they have finished the course? What are the skills you want to help them develop? Imagine that you are writing a letter to your students, not a legal document.
- When planning what students should do in and out of class, ask yourself the following question: Is this a good way of practicing the skills you intend them to master? Will this make visible for the student and you the progress students are

making towards the goals?

• Choose as best you can examination formats that are appropriate for eliciting the types of skill and knowledge you have specified in the learning outcomes.

Even if you cannot influence the learning outcomes or assessment method for your course, you still need to design teaching activities to help students attain the intended learning outcomes of the course. Rather than letting the curriculum define what and how you teach, let the actions that students should be able to perform upon finishing the course direct the design of the course and then let the curriculum be a support on that path.

### Alignment on paper vs. alignment in reality

If you want to succeed in aligning your course, you should know that what really matters is whether your students perceive your course to be aligned. For example, it does not matter that your learning outcomes are clearly formulated if the students do not understand them. Research has repeatedly demonstrated that students who perceive a course to be aligned are more likely to be engaged in appropriate learning activities than students who do not perceive a course to be aligned (Parpala et al., 2013). This shows the importance of alignment. Yet, students within the exact same course will sometimes have quite different opinions on whether the course is aligned or not. Students who perceive a course to be nonaligned often

- know the learning outcomes without knowing what they mean;
- have trouble seeing the benefit of the teaching-learning activities (especially activities relying heavily on student participation);
- have incomplete or false information on how they will be assessed and what is valued in

### the examination process.

Consequently, we as educators need to not only think about whether the course seems aligned from our perspective, but also imagine the students' perspectives.

### Advice on achieving alignment (continued)

- Remember that alignment is worthless unless students perceive the course to be aligned.
- Explain as best you can
  - what the learning outcomes actually mean;
  - $\circ$  why the learning activities are designed as they are;
- how students will be assessed and what the students should demonstrate. Engage in dialogue with the students. For example, you can reserve time to discuss the course and let the students ask questions (preferably in the beginning and middle of the course).

## Assessment

Assessment is one of the most important drivers for student motivation and learning. Ramsden (1992) stresses: "from our students' point of view, assessment always defines the actual curriculum".

### By Annika Büchert Lindberg and Bente Mosgaard

Assessment serves three main functions: to judge the quality of the learning achieved by students, to certify and account for this achievement to society and finally to support students' learning. The two former functions are assessment **of** learning whereas the last is assessment **for** learning.

### **Assessing students**

The final assessment (final exam) as well as assessments during the course are described in the academic regulations and/or in the course catalogue. Educators need to focus the assessment on learning outcomes and provide the students with opportunities to practice and receive feedback.

Core concepts		
Final assessment	The assessment/exam takes place at the end of the course. If students are only assessed during the final assessment, it is a 'high stakes' test situation.	
Continuous assessment	Assessment through one or more teaching and learning activities during the course. In addition, a final assessment may be given at the end of the course.	
Formative assessment	The assessment is used to provide feedback (on how the student is doing) and feedforward (on how to improve) to the student, also known as 'assessment for learning'.	
Summative assessment	The assessment is used to grade/mark student achievement.	
Assessment validity	An assessment/test/exam has high validity when it very precisely assesses whether students achieve the intended learning outcomes.	
Assessment reliability	An assessment/test/exam has high reliability when its judgements are fair and objective.	

### Five things to consider when assessing

- 1. Align assessment with the learning outcomes and the teaching activities used during the course module and secure sufficient sampling of content.
- 2. Make sure that the assessment is actually measuring what it is intented to measure.
- 3. Make assessments authentic and relevant to students and stakeholders.
- 4. Incorporate continuous assessment and provide formative feedback to students whenever relevant.
- 5. Provide course assignments with relevance to the final assessment and dialogical feedback.

### **Challenges in assessment**

Although the course content and teaching methods are regularly updated in curriculum revisions, this is often not the case for course assessments in Danish higher education contexts.

Assessment should, however, also be regularly revisited, critically reviewed and redesigned in order to continuously support student learning during the course and adequately assess relevant generic and new competences in demand, such as interdisciplinary and team collaboration and IT skills, which are important in many work contexts.

Final assessments must be unique. It is not allowed to reuse entire exam sets without introducing variation.

#### Learn more:

- Ministerial order on university examinations and grading (http://ufm.dk/en/legislation/prevailing-laws-andregulations/education/files/engelsk-oversaettelse-af-bekendtgorelse-nr-670-af-19juni-2014-om-eksamen-og-censur-ved-universitetsuddannelser.pdf)
- The Danish grading system (http://ufm.dk/en/education-and-institutions/thedanish-education-system/grading-system)
- Ministerial order on the grading scale (http://ufm.dk/en/education-andinstitutions/the-danish-education-system/gradingsystem/karakterbekendtgoerelse\_vtu\_en.pdf)
- Assessment methods (http://stll.au.dk/en/resources/assessment-methods/)
- Assessments and grades in Denmark (http://www.intluniversity.dk/resources/higher-education-in-denmark/assessmentand-grades/)

## **Active Learning**

Active learning has to do with students engaging in and reflecting upon learning activities. An active learning approach to designing and teaching courses places emphasis on the students and learning activities, from student-initiated interactions to teacher-led lectures.

### By Peter Musaeus and Karen Louise Møller

Active learning means that the student engages in activities such as reading, writing, discussing, problem solving, listening or thinking. Active learning is an overarching term for student-centered, learner-centered, student engaged, inductive teaching, student participation and interactive instruction.

Researchers and practitioners in this area ask the question: How should the teacher design in-class or out-of-class activities where students do something?

Active learning is held as an ideal for teaching and is sometimes pitted against passive learning. The premise is that some activities, for instance, listening, note-taking, or watching the teacher are passive activities. There might be some truth in this, but it is difficult to classify some teaching activities as per se passive and others as active. For instance, listening can be an active process, talking presupposes listening and reflecting can be necessary for doing. Thus, there is hardly any instructional format that is per definition more activating than others or immune to passive learning. Furthermore, the term active learning seems redundant since learning according to a constructivist is per definition active in the sense that it presupposes an active construction of meaning on behalf of the learner. However, active learning is an important concept, for instance when teachers experience that their teaching does not produce the intended learning outcomes and need to address how to commit students in a learning process. Therefore, active learning is an important instructional principle that can be planned by the teacher to positively influence student learning of skills, subject matter knowledge, development of identity, attitudes and motivation.

In conclusion, active learning is about making students interact with each other, you and the subject, and reflect upon this learning process. It is impossible to anticipate all the questions teachers in any teaching situation might ask when approaching the challenge of designing active learning, but the following table is a sincere, if necessarily limited, attempt to pose and answer some key questions.

Considerations when engaging students in active learning	
Questions	Suggestions
Is the learning activity aligned with the learning objectives and the assessment?	Explain at the start of the course how the learning outcomes link to the learning activities.
How to subdivide your class?	Subdivide students into smaller groups based on a number of criteria. Relevant criteria could be skills level, expertise, cultural background, different or same academic background.
In a structured approach to instruction, how do you plan for spontaneity?	Allow time for it to develop in the class participants including yourself. Vary activities and do not get caught in routines just because they worked last time.
How to plan for discussion in your class?	Socratic questioning of individual students or group discussion. Probing, challenging or expanding questions. Acting as the Devil's advocate.
How to pace the activities?	If you split up activities, quick groups of students might solve more problems than slower ones. Break difficult problems into smaller chunks.
If you tell students what you know are you engaging them in active learning?	Avoid covering too much content and focus on the process of learning key concepts and content.
What are some active learning tasks?	Letting students summarize, synthesize, draw conclusions, Using in-class assignments, peer- feedback and peer assessment and group activities. Using student response systems, cases and modelling problem-solving.
What does reflection mean to you as a teacher?	Engage in active learning as a teacher: Strive to understand the effects of your teaching and what you have learned.

Do you give students options?	Give students the choice between different learning activities: E.g. clicker questions or solving problems.
Do you model your own problem-solving?	As an expert, you can show something valuable by thinking aloud when solving a problem.
What is your role as teacher in active learning?	To organize the learning environment. Tell stories too – but tell less. To gradually make yourself redundant as a teacher.
What is the final aim of your teaching for which active learning is the answer?	To produce democratic citizens, critical thinkers, or skilled professionals?

## **Evaluation**

All courses at AU are evaluated by the students. As an educator, it is important that you distinguish between course evaluation and final assessment. Evaluation is a way of understanding the effects of our teaching on students' learning.

### By Berit Lassesen and Annika Büchert Lindberg

Evaluation concerns learning to teach better and exercise control over the process of learning to teach better. It implies collecting information about your work, interpreting the information and making judgements about which actions you should take to improve your teaching practice. It involves consideration of these elements:

- **Focus**: To attain a useful feedback, you must consider what exactly you want to know about your teaching activities. We recommend a survey closely related to student learning, rather than measuring student satisfaction with regards to e.g. teaching method, course elements and learning goals.
- **Timing**: Although the end-of-course evaluation may contribute to improving future courses, it does not enable us to respond to the needs of the students currently enrolled in the course. Formative feedback collected early in the course accomplishes this aim.
- **Method**: Besides "set questions" on the course evaluations, you may ask your own. E.g.,
- asking open-ended questions enabling students to write their responses will yield very useful information if the questions are well constructed. The students' observations, comments and suggestions will provide you with ideas to put into practice in your course. (See below for ideas and methods for getting rich and useful responses.)
- **Reflection**: As you review your evaluation report/data, you will want to consider what it means for you and your course. Here are a few pieces of good advice:
  - Compare the comments of students who gave the course a very positive evaluation (on overall course quality and teaching effectiveness) with the comments of students who evaluated the course less positively. This may help you identify important issues to address, and it can help you make sense of contradictory student comments.
  - Look for themes: Pay attention to any criticism that appears more than once.
     Even if it is a minor cluster, your course as a whole can benefit from adjustments or different approaches.
  - Keep it in perspective: Try to keep your perspective when reading negative comments. Under the protection of anonymity, students may write harshly negative comments. These comments may be motivated by pressures and concerns unrelated to your course. If you receive several negative comments in your evaluation, you may want to discuss them with a trusted colleague or someone who can help you keep perspective and restore your teaching

confidence, while helping you explore ways to address any possible problems in future courses.

### Things you should consider when evaluating:

- What is working well?
- Are students attending the course regularly?
- Are they prepared for class?
- Are there any areas you should give more attention, such as course design and/or teaching methods?
- Is there information in the written comments that can help you make sense of the course evaluation as a whole?
- Does your own assessment of your teaching activities match that of your students'? If not, why not?
- Who can help provide insight into your evaluation? Colleagues, director of studies, students, TA's?

## **Teaching with Technology**

## Creating effective learning activities with technology requires not only knowledge about the technology; one must also keep in mind the pedagogical objective and its relevance and connection to other parts of the course

### By Tobias Alsted Nielsen, Janne Saltoft Hansen, Karen Louise Møller and Mikkel Godsk

Higher education is gradually being infused with new ways of presenting content and interacting with students through learning management systems (such as Blackboard), mobile devices, computers, and other educational technologies either online or face-to-face in the classroom. By means of educational technology (also referred to as 'educational IT' at Aarhus University), it is possible to support, enhance and transform teaching and student learning.

Research has shown that using technology has the potential to support:

- flexibility and widened access to the curriculum;
- the ability to engage students in a variety of ways in their learning;
- appropriate assessment and feedback for students;
- students' revision of own work;
- students' reflection upon their own learning and personal development;
- students' interaction and collaboration with peers.

(Kirkwood & Price, 2011)

Educational technology may serve multiple purposes; however, its integration should spring from a pedagogical concern, a teaching challenge, or a plan to provide blended or online learning. Accordingly, you should start by defining the intended learning activity and its purpose before considering which technologies you might want or need to use.

### Background

In 2011, Aarhus University has had a distinct strategy on educational IT for the university, embracing educational IT as a catalyst for advancing student engagement, student learning, continuous feedback, and knowledge sharing and collaboration among students through online interactions and technologies.

In the period of 2018-2023, the university intensifies these efforts by providing funding for course redesigns deploying educational IT and acquisition of learning technologies. You can find more information on the possibilities for funding and application templates on the <u>Edu-IT Hub homepage</u>.

### Learning technologies

All courses are automatically created in the university's learning management system, Blackboard, and you are assigned to the courses you are responsible for. On Blackboard you can share course material and engage students in a variety of ways. Watch this video to learn more about how to navigate in Blackboard, upload content and engage students online. All participants of the InTeL course have access to all the videos on the course site in Blackboard.

If you want to know more about Blackboard, you can find information and support at the Staff service pages on Blackboard.



In addition to Blackboard teaching staff has access to a number of educational IT tools, among others; a student response system, a tool for peer feedback and a digital bulletin board. For more information on the current tools in use, visit the page on learning technologies at the <u>Edu-IT Hub</u>.

### Get the blend right

Educational IT is more than integrating Blackboard into your teaching practice, and creating effective learning activities with technology requires knowledge about not only the technology but also the pedagogical objective and its relevance and connection to other parts



of the course (Mishra & Koehler, 2006). Balancing the amount of in-class and out-of class activities and creating a coherent course where neither part is detached from the other can be challenging (Dee Fink, 2009). Watch this video to understand the concept of Blended Learning and ways for you to integrate technology into your teaching.

### Advice on using technology to support student learning

- Use technology for pedagogical purposes not because it is smart.
- Stick to technologies you feel comfortable using.
- Clearly communicate how students should interact with the technology.
- Create coherence between in-class and out-of class activities.

### Challenges of using technology to support student learning:

- Students are not necessarily familiar with blended or online learning activities.
- Blended and online activities can appear as fragmented and optional if not integrated well.
- Breakdowns in technology can occur while teaching. Prepare for an analog plan B if the activity is central to students' understanding of the topic.

### Learn more and see examples

Activities and technologies:

- Aarhus BSS' online resource: <u>TREAT</u>
- Arts' resource <u>AU Educate</u>
- Science and Technology's online resource <u>ST Educator</u>. Enrol yourself with the code: 1234
- Health's online resource on educational IT

## **Planning for Better Teaching**

One of the most important elements in good teaching is planning and organization. When preparing a course, educators often tend to focus more on their own actions and less on what they expect the students to do. However, in order to stimulate higher cognitive processes and critical thinking, students must engage actively in relevant activities.

### By Rikke Frøhlich Hougaard and Berit Lassesen

To teach for students' learning it is essential that you 1) formulate what students are intended to learn in the relevant lesson, 2) consider which signs to look for to know whether the students are learning, 3) plan how you will organize the learning activities for your students – both in class and out-of-class), and 4) evaluate how your class went and consider how to adjust next time.

To be able to plan and develop your teaching, you should always consider the items, which were presented in the text above and identify them in your own context:

- Learning outcomes
- Alignment
- Active learning
- Assessment

In addition it is important that you consider:

- Your course design should address students' in-class and out-of-class course work
- Designing courses is an iterative process and you need to continuously adjust your teaching according to your observations and reflections.



### Advice on course planning

Always start out by considering what you intend the students to learn during the course – as well as what knowledge students already have and what prerequisites your course will require.

- How will you investigate/assess whether your students learn what you intend for them to learn?
- Consider what students should do not only during class but also between classes by means of blended learning and visible learning outcomes the students will be inclined to work more and more effectively.
- Discuss your teaching with a colleague to further your own reflections learn from past examples. If others have taught the course before you, talk to them about what successes and challenges they encountered.

## THEMES

Below you will find a brief introduction to the following themes in teaching:

- Lecturing
- Small Class Teaching
- Laboratory Teaching
- Clinical Teaching
- Supervision

## Lecturing

A good lecture is a social and communicative event. It is the possibility for experts to inspire and provide an overview to students. The purpose of the lecture is to make it more meaningful for students to dig further into the subject matter. After finishing this element on lecturing, you will be able to structure a lecture using activation while focusing on student learning.

By Linda Greve, Ole Eggers Bjælde and Peter Musaeus

A lecture is a talk given to up to 500+ listeners. Below is a short introduction video on the genre of lecturing:



### **Essential points**

- 1. A lecture should be more like talking with someone rather than a passive talk. Thus, less like reading aloud from a manuscript or slides or reciting from memory.
- 2. Engage the students by having a clear structure and by helping them understand why the topic is important.
- 3. park curiosity by giving students something they would not easily have gotten from books or the internet.
- 4. Let the students sense the added value of being present and participating in your lecture by involving them and giving them something here and now.

### Get and keep the students' attention

It is important that you structure your lecture to ensure that the students stay attentive throughout the lecture.

This video provides a few essential points for you to consider when preparing your lecture.



### **Essential points**

- 1. A good lecture transfers information and activates students
- 2. The attention span of an average student is 10-20 minutes
- 3. Make sure that your lecture is not only one-waycommunication.

#### **Preparation: make a structure**

In the video below, we present the essential questions of What, Who and How in preparing a





- **Essential points** 1. C hoose your lecture style
  - 2. Let your lecture be a mix of essential points and activities.

## **Small Class Teaching**

In this context "small class teaching" refers to teaching situations in which students (approx. 20-40 students) work actively on the course content, train practical skills or practice oral communication or critical thinking. The educator of small class teaching can range from Bachelor students to full professors.

By Annika Büchert Lindberg

Small class teaching has many different names (seminars, tutorials, classroom teaching) reflecting the different ways of organizing teaching. A few examples of teaching and working methods are given below.

Examples of small class teaching	Short description
activities	
Student presentations	Students present scientific papers, course content or parts of course content. Students not presenting can be appointed as opponents, feedback givers or audience. The presentation can be followed by a discussion.
Discussion-based teaching	The educator involves students in a dialogue about the course content. The dialogue can be based on questions answered by students in advance.
Theoretical exercises and problem solving (in danish teoretiske øvelser, TØ)	Students apply methods and concepts in problem solving. Problems are provided by the educator and can be solved in advance or in class. Solutions and/or problem solving processes might be discussed in class.
Laboratory teaching	Students perform practical procedures or experiments in the laboratory. The laboratory instruction is often developed by the lecturer but can also be influenced by students (freedom of choice of problem, method or results).
Computer laboratory teaching	Students work in a computer laboratory on problem solving, programming, or software application.

Excursions/field trips	Students are taken into the 'real world' to get experience on site or to perform field experiments.
Internship	Students work outside the university for a period of time i.e. 1-3-6 months as part of their degree programme. Their work during the internship is supervised by an educator.
Case-based teaching	Students work on 'real-life' problems and make decisions based on the available information (provided by lecturer, companies or own search) and theories within the discipline. Cases to be solved are provided by the educator or a third party, e.g. a company or an organisation.
Problem-based learning	Students (in groups) solve problems by researching solutions and writing a report. Problems to be solved are provided by the educator or a third party, e.g. a company or an organisation.
Peer assessment	Students give feedback on drafts/peer assignment/tests with/without a model answer or rubric from the educator.
Cooperative learning	Students cooperate in small groups through structured activities.

## **Laboratory Teaching**

This theme will outline the challenges you need to consider when teaching in the laboratory, and provide guidelines and suggestions on how to organize your lab teaching in order to increase student learning. After finishing this theme, you will be able to structure instructions and activities for your laboratory course so that you ensure that your students have their 'minds-on' during their lab work.

### By Rikke Frøhlich Hougaard and Birgitte Lund Nielsen

### Lab teaching as a genre

Lab courses take many forms. In its traditional form, laboratory teaching is organized as weekly sessions or several consecutive days where students work in groups of 2-4 in laboratories dedicated for teaching purposes. Laboratory teaching can also be organized as open labs, where students organize the lab work themselves, or the students can be invited to perform experiments in research labs as part of a course.

### **Opportunities in laboratory teaching**

Laboratory teaching provides unique opportunities for students to learn skills that cannot be efficiently trained in other types of teaching:

- Practical skills such as handling equipment and materials, making observations and collecting data
- Scientific skills such as critical thinking, designing experiments, analysing and interpreting data
- Transferrable skills such as collaboration and scientific writing.

(Gaddis & Schoffstall (2007), Reid & Shah (2007) Abraham 2011)

However, being hands-on with experiments and equipment does not automatically lead students to learn scientific concepts or train academic skills. What determines the learning outcome from the lab course is what students think while doing hands-on activities.

### Teaching scientific skills in the laboratory

A traditional type of instruction in lab courses includes 1) a pre-laboratory lecture in which the educator presents the theory related to the experiment, 2) a detailed cookbook-like manual which the students follow step-by-step, and 3) a report handed in by the students. The expected result of the experiment is usually known in advance by the educator and maybe also the students. In this type of instruction, the students have no or little influence on what will be investigated and how the investigation will be carried out.

All evidence suggests that such instructions do not efficiently promote students' learning of scientific concepts and skills, simply because the students do not perceive any incentive to think about the aim and hypothesis, the experimental design, or the link to scientific concepts. Often the students consider these issues only upon completion of a laboratory

report, after the lab work, and hence they miss the opportunity to discuss issues with educators and peers.

Your laboratory teaching is more likely to influence your students' learning of scientific skills if you provide opportunities for the students to:

- explain their understanding of the experiment and the connection to theory;
- hypothesize and predict the outcome of the experiment;
- plan the organization of their work in the laboratory;
- influence the experimental design;
- discuss data and results;
- experiment and optimize the use of methods and equipment;
- discuss the use of equipment and methods in other contexts, and
- get feedback on their learning of concepts and scientific skills (according to learning outcomes).

It is important that you consider your course learning outcomes and select issues to focus on according to these outcomes.

In the following you will learn how to organize your lab teaching in order to ensure that students have minds-on and not only hands-on in the lab.

To get the most out of your lab-session it is important that you carefully consider what students should do before, during and after lab.

### **BEFORE LAB**

How can you support the student's active preparation for lab?

Do they consider why and how to perform the experiment, or which safety considerations applies?

## DURING LAB

How can you support student's active learning in the lab?

Do they think and talk about the methods, theory, or data realted to the experiment? Do you provide feedback?

### AFTER LAB

How can you support students active learning when they work on the report?

Do they relate their methods and data to the theory? Do you provide feedback?

### **Organizing teaching: Before lab**

It is important that you consider how your students should prepare before they come to the lab. And you should consider carefully what type of prelab activities will be relevant to your course. For instance, is the focus mainly on performing the experiment correctly, or do you expect your students to reflect on scientific concepts?

The benefit of having well-prepared students is that students can perform the experiment

independently without asking the instructor too often. This leaves more time for the teacher to interact/discuss with students about concepts and not only during lectures.

- Provide opportunities to work with the theory before lab:
  - Answer questions related to theory.
  - Write the theory paragraph for the report.
  - Establish a hypothesis.
  - Answer multiple choice questions, e.g. online.
- Provide opportunities to link theory and experimental procedure:
  - $\circ~$  Fill out blank steps in the protocol.
  - Draw a concept map.
  - $\circ$  Plan parts of the procedure.
  - $\circ$  Make a work plan (flow chart) with explanations of all/selected steps.
  - Find information about relevant safety rules.
- Provide clear instructions:
  - $\circ$   $\:$  Use video tutorials for demonstrations of equipment and methods.

### **Organizing teaching: During lab**

It is important for you as an educator to assess whether your students are learning what you intend them to learn. And it is important for your students to get feedback on their learning.

In the lab, both educators and students have a tendency to focus on the practical issues related to the experiment. Therefore, it is important to organise your instructions so that you create opportunities for feedback.

Several of the pre-lab activities listed above are excellent starting points for a dialogue with your students about their understanding of the scientific issues related to the experiment.

You can organize this dialogue in many ways, e.g. as a mandatory activity before initiating the lab work, as informal discussions instigated during students' waiting time, or as formalised discussions at fixed points during the procedure.

The next steps addresses the principles of giving effective feedback in the classroom and provides examples of how you can organize activities where students have to cooperate and discuss to solve tasks.

### **Organizing teaching: After lab**

The lab report is an essential part of most lab courses. Usually it is handed in several days after completing the lab, and the students receive feedback on the final report.

You may consider different ways of organizing 1) how and when the report is handed in, and 2) what kind of feedback is provided on the report.

The report may be divided into two parts, with the theory part being completed before lab,

and the experimental part after lab. In this way you provide an incentive to work with the theory before lab.

The students may hand in a draft version of the report and receive feedback on this before finalizing the report. You may consider organizing feedback on either the draft or the final report as peer feedback.
# **Clinical Teaching**

## Clinical teaching is an important element in the transition from student to professional. The teaching and learning climate and mutual understanding play a major role in the success of clinical teaching.

## By Mads Ronald Dahl and Mads Skipper

Students at the Faculty of Health in particular will be enrolled in clinical environments and placement outside campus during their studies. These teaching and learning settings provide opportunities for students to experience and learn crucial professional skills. Getting to see and experience an operating room, work with real patients, talk to parents of a sick child and be part of a public health team can influence career choices and be inspiring.

Students must learn about the healthcare sector and develop professional knowledge such as clinical decision making, professional skills such as objective examination, procedures, and professional socialization – to act and behave as a (healthcare) professional.

The organizations providing clinical teaching and placement take on the obligation of facilitating learning opportunities in a structured, safe, balanced and courteous way. At the same time, the organization of the workplace is complex and sometimes of an unpredictable nature, which is a part of the experience of the learning in placements.

First five pieces of good advice for the educator:

- 1. Consider student expectations and skills.
- 2. Plan structured learning opportunities.
- 3. Give routine tasks responsibilities.
- 4. Give feedback and acknowledge student performance and contributions.
- 5. Prioritize communication and inclusion.

## Student expectations and pre-skills profile

Students have high expectations and sometimes anxiety when starting clinical training. Knowing how to work as a healthcare professional is only gained through hands-on deliberate practice and time for quality reflection with feedback. For the novice student and learner it can be a overwhelming and confusing experience with too much "noise" and information for them to identify key learning opportunities. Furthermore, the increase in student numbers, specialization of clinics and LEAN-like production tempo makes the average workplace a very demanding and busy setting for newcomers. Patients and relatives are also often accustomed to expert healthcare professionals and a demanding professional code of conduct, adding to the pressure on the student and teacher. Clinical skills that need training:

- Documentation skills: history taking skills, Electronic patient journal (EPJ) usage, local instruction usage
- Procedural skills: physical examinations, investigations, decision making, diagnostics and patient management
- Communication skills
- Time management
- Health and safety regulations
- Administration skills
- Technical and instrumental skills

Human factor skills are also a very important element to acknowledge. These skills can be transferable across clinical settings and thus become important for developing generic clinical skills. Examples are situational awareness, empathy, task management, team communication, stress and observance as non-technical skills.

Think about how you could address the development of and give feedback on some of these skills the next time you meet a student.

## Structure and approaches to teaching clinical skills

Gagne (1985) designed an approach to teaching a clinical technical skill and described three phases:

- Cognitive phase: consciously introduce a routine skill with support.
- Associative phase: deliberate practice to integrate component parts.
- Autonomous phase on the basis of required skills.

A useful model for structuring a lesson designed to teach technical skills is called STEPS:

- **S** Set the foundation of prior learning, the importance of the skill and context of usage.
- ${\bf T}$  Tutor demonstration without commentary
- ${\bf E}$  Explain with repeated demonstration
- ${\bf P}$  Practice under supervision with feedback from peer and tutor
- **S** Subsequent deliberate practice is encouraged.

It is one thing to train and teach clinical skills in a lesson or simulation environment and another to identify learning opportunities quickly.

The later demands a very high level of dedication, flexibility and overview. How could you identify and structure one or two essential skill training scenarios for your student

# Supervision

In this theme you will find a short introduction to supervision. The theme consists of some reading material and a number of elements, you are invited to choose from. You should at least read through the first three introductory elements '1. Process skills and relation skills', '2. Text-feedback skills', '3. Communication skills' and one to two of the other elements, and include the tools and principles when filling out your template. Go back to the module path to upload your template and provide feedback.

Supervision is a form of teaching that aims to help students while they are writing assignments and theses or conducting small research projects. Good supervision involves mastering three main skills: 1) Relationship skills, 2) text-feedback skills, 3) communication skills. After finishing this theme on supervision, you will be able to manage the supervision process in an efficient way that promotes student independence

Our focus here is on supervision at the Bachelor and Master level. We address three main supervisor skills:

## **Relationship skills**

By Gitte Wichmann-Hansen, Mette Krogh Christensen and Tove Hedegaard Jørgensen

*Relationship skills* are critical in supervision because you meet with the students one to one. It enables a personal relationship but it may cause difficulties, because the supervisor is in a powerful position to validate students' work (Rienecker, Wichmann-Hansen & Stray Jørgensen, 2019). To overcome potential problems in the supervision relationship, we list three core advice.

## 1. Clarify expectations

Firstly, research shows that successful supervision depends on establishing a good supervisory relationship (Lee, 2012). Students and supervisors often have differing expectations of each other and thus, the recurrent advice from the literature is to clarify expectations early and regularly (Taylor, Beasley, & Kiley, 2017). It is vital for a constructive relationship. Written agreements are useful tools for clarifying expectations. In particular, we recommend that you write a so-called supervisor letter:

## **A Supervisor Letter**

It fills 1-3 pages.

It describes how you generally supervise, i.e. what students can expect from you and vice versa.

You can hand it out at the first supervision meeting or you can make it accessible online for all students to read beforehand.

It should be negotiated with the students. Do not present it as set in stone ("This is what you get – take it or leave it"). Discuss it with your students and show interest in *their* expectations.

The advantages of writing a supervisor letter are efficiency and accuracy because the letter explains institutional and individual expectations that would not otherwise have been addressed, and it ensures that you and your students are prepared for a conversation about expectations. You will find a template for a supervisor letter in Wichmann-Hansen & Wirenfeldt Jensen (2015).

### 2. Balance direction and independence

A core dilemma often addressed by supervisors is how to ensure the quality of student products and timely completion while facilitating students' learning and independence (Barnes & Cheng, 2018). The answer is not clear-cut, but it is possible to manage the dilemma by following some pieces of advice.

You will find the key advice in the video below.



## 3. Make the supervision process efficient

It is increasingly essential to make supervision more efficient in light of <u>the study</u> <u>progress reform</u>. The time allotted for conducting projects and writing assignments has been reduced, and potential delay has significant economic consequences for the university. Thus, supervisors need to use strategies to make more efficient use of their own and students' time:

Hold efficient meetings				
Request preparation <i>before</i> the meeting	<ul> <li>Ask students for a meeting agenda, E.g.:</li> <li>1) What have you been working on since last meeting?</li> <li>2) What issues are you grappling with at the moment?</li> <li>3) What would you like us to talk about?</li> <li>4) How is your writing going?</li> </ul>			
	Ask for drafts – in good time before the meeting.			
Request processing <i>after</i> the meeting	Ask about the students' learning outcome + next steps.			
	Ask the student to send a short summary of the meeting.			

Agree on the next meeting date
rigice on the next meeting dute.

Discuss students' work plans				
Agree on milestones <i>early</i> in the process	Ask students to 1) print a calendar on A3 paper and plot key deadlines on it, and 2) bring it to the meeting. Help make adjustments if necessary.			
	Tell students to avoid "saving up" supervision. The best supervision occurs at the beginning of the project.			
React promptly if students <i>don't</i> follow	if Renew contact (by mail or phone).			
the schedule	<ul> <li>Use an assertive three-step approach when confronting students:</li> <li>1) Describe your observations, e.g. number of postponements and cancelled meetings (don't judge).</li> <li>2) Ask the student to elaborate on the situation (how does the student understand and interpret your observations).</li> <li>3) Ask how the student prefers to solve the situation (and how you can help).</li> </ul>			
	Try to restore the student's "energy" in the project. (What was the initial interest in the project?)			
	Decide on a weekly contract: What shall each of you do from now on?			
	Look at the text. Do not settle for talking!			
	Check whether the written work 1) is consistent and methodologically sound, and 2) has an explicit research problem. If not: Consider writing a draft for the thesis statement and outlining together with the student			
	Be very clear about your assessment of the backbone of the thesis: Is it strong or not? Do not waffle!			

## **Text-feedback skills**

By Gitte Wichmann-Hansen, Mette Krogh Christensen and Tove Hedegaard Jørgensen

Supervisors' text-feedback skills include two elements: 1) motivating students to write early and within the scientific genre and 2) providing constructive feedback on students' drafts.

Motivate students to write early (from day 1)		
Why?	hy? Because:	
Writing is thinking (it helps students in structuring their thoughts).		
	Writing becomes more difficult as time passes.	
	A written draft is the best starting point for supervision.	

How?	Ask for early drafts, e.g. preliminary introductions, bibliographies, and tables of			
	contents.			
	Suggest using the <u>Free-Writing</u> online tool.			

Help students write within the scientific genre				
Why?	Students' assignments are assessed on the basis of the content but also on the basis			
	of the writing quality, which must meet the standards of a scientific genre. It is			
	therefore important that supervisors help students recognize scientific genre			
	features and apply them to their own text.			
How?	Ask students to write the purpose and (if relevant) the hypotheses of the project as			
	the first thing.			
	<u>Scribo</u> , a free online software tool (login via WAYF), can help in some disciplines			
	(Arts and BSS in particular). Scribo visualizes the main building blocks in a			
	scientific text.			
Within disciplines such as ST and HE, you can ask your students to fill out a				
	template. Ask students to bring their text (e.g. output of Scribo or CARS) to the next			
	supervision meeting as a starting point for discussing their research question and			
	design.			

Constructive feedback involves three main elements (Feed up, Feed back, Feed forward), which are well described in the "Feedback on assignments" item. In addition to these elements, we list four key pieces of advice on how to provide feedback as part of your supervisory role.

### **Provide constructive feedback**

1. Target your feedback

Ask students to write a cover letter when they send text drafts. Max <sup>1</sup>/<sub>2</sub> A4 page that answers these 5 questions:

What have you sent?

How complete is the text?

What are you pleased with?

What challenges are you facing?

What would you like feedback on?

2. Prioritize your feedback

Make a few overall and well-thought-out comments in addition to more detailed comments,

e.g. My three most important comments this time are...

3. Differentiate your feedback

Focus on the overall features in the text and subsequently on the details. Do not get lost in details in students' first drafts!

4. Evaluate the feedback

Ask the student how he/she will and can use the feedback in the next phase of writing. Consider to see the same text piece again to see if or how the student used the feedback.

## **Communication skills**

By Gitte Wichmann-Hansen, Mette Krogh Christensen, and Tove Hedegaard Jørgensen

Listening and questioning techniques are the core elements of supervision. They are important tools in tailoring supervision to individual student needs and hence in facilitating learning.

Putting less emphasis on instruction and more emphasis on listening and questioning will encourage student initiative and independence. It will move supervision away from one-way communication or traditional teaching and towards two-way communication and collaboration with a stronger focus on the student's perceptions and learning.

## 1. Listening

Active listening is a widely used technique in many professions (Table 1). It is useful in academic supervision because it suggest ways to achieve a detailed understanding of student needs and set aside one's own agenda as a means of delivering effective supervision (Godskesen & Wichmann-Hansen, 2013).

**Be attentive and patient** by focusing on the student, keeping contact, avoiding interruption, and providing (silent) time for reflection.

**Respond to words as well as emotions** by articulating your observations of what is being said between the lines.

Act cooperatively and interested by asking open questions or asking the student about his/her understanding and experience.

**Show respect** by testing your own understanding through reformulating or rewording what the student says.

Table 1. A summary of the main components of active listening in supervision.

### 2. Questioning

Closed questions in supervision often address factual knowledge and result in short answers. Open questions are more likely to facilitate higher-order learning and help students take ownership of their projects. The intentional use of different types of open questions, in combination with active listening, can effectively reveal challenges in the project or the work of the student and make these challenges apparent not only to the supervisor but, more importantly, to the student (Rienecker et al, 2019). Figure 1 summarizes the three main phases of questioning in supervision: Establish – Investigate – Decide on an action plan.



This three-phase questioning may take 10 min., 30 min. or more, depending on the situation. The important issue here is the structure and sequence of the questions. The second phase ('Investigate the problem') is *key* to the students' higher-order learning and ownership of their projects. In this phase, you (the supervisor) should show a genuine interest in learning new things about the student's way of working with and thinking about the project and the challenges in the project.

### 3. Meta-communication

You will find some main advice on how to meta-communicate in this video.





Below you find advice and ideas for different aspect of teaching and learning

## **Body Language**

You can support or undermine your teaching with your body language. Even though content and theoretical knowledge are the most essential aspects of university teaching, your body language is important too.

## By Linda Greve and Pernille Maj Svendsen

You can affect your students with your body language, and you can affect yourself and your own state of mind. Through video examples, we will show you how to use your body to establish connections with your students. Most of what we present might seem common sense. However we experience that many lectures forget the impact of their own body language when teaching. Thus these very specific advises.

## Building your ethos through your body

Ethos together with logos and pathos constitutes the three forms of appeal, according to Aristotle and ancient Greek rhetoric. Ethos describes how trustworthy you are in the eyes of your students. The more they trust you and your intentions and motivation for teaching, the more likely they are to participate in the teaching and learning activities. You build your ethos through your use of logos and the theories, models and facts of the curriculum. Further you can strengthen your ethos by ways of your presence in the room, your body language. McCroskey points to three parts of ethos:

- Initial ethos your level of credibility before you start your lecture
- Derived ethos the ethos you build throughout your lesson Terminal ethos the level of ethos on which you end your lesson.

It is preferable that you end on a higher or at least on the same level of ethos. This of course comes down to a good structure, aligned activities, and attention to the learning outcomes. But it can be supported, or undermined, by your body language.

Below you will find examples of how to support your ethos through your body language initially, during the lesson and at the end of the lesson. Watch the videos and consider how you normally enter the classroom, perform in the classroom and exit the classroom when you are teaching. We also recommend that you record yourself when teaching and evaluate your interaction and body languag

## 1: Make an entrance

You have around ten seconds to create initial contact with your students and make a good first impression. Even before you start to speak, your ethos affects the students. Your initial ethos relates to how trustworthy your students find you prior to having met you. Below we illustrate three ways of entering a classroom, each of which will affect your initial ethos in different ways.



## Three areas of focus when entering the room:

- 1. Be mentally present with your students the moment you are physically present in the room.
- 2. Make eye contact and smile.
- 3. Be aware of entering the room with the ethos of an educator.

### 2: Establish contact with the students

Now that you created a good initial atmosphere in the room, you will need to build your ethos. In the video below we illustrate how you can appear calm and make room for both delivering your messages and encouraging questions and comments.



#### Three areas of focus when establishing contact with students

- 1. Reduce noise from repetitive movement and stay calm and focused.
- 2. Make physical room for questions, reflection and comments.
- 3. Face the students and be aware of how you move in front of the screen or blackboard.

### **3: Ending well**

Even though first impressions last, what really matters for your next meeting with the students is your terminal ethos.

It is essential to end your classes just as well as you started them.



### Three areas of focus when ending class:

- 1. Even if you did not finish what you planned, sum up and point to next steps for the students.
- 2. Film yourself once in a while, and watch the movie without sound to observe your body language.
- 3. You can ruin a nice derived ethos by ending in an insecure or condescending manner.

## **Classroom Management**

Classroom management refers to the actions and directions that educators use to create a successful learning environment where students are engaged, focused, on task, and academically productive during a class.

## By Lea Lund

It is your role as an educator to establish a productive learning environment for your students both in-class and out-of-class. Recalling the five indicators of quality teaching, two indicators are directly linked to classroom management: 1) clarity and structure and 2) a positive learning environment. When classroom-management strategies are executed effectively, educators maximize the behaviours that facilitate or enhance learning while minimizing the behaviours that hinder learning for students.

When considering how to manage the classroom, you should answer three key questions:

- What content is to be learned and therefore taught? (regarding the purpose/learning goals/syllabus)
- How will you teach the content? (teaching methods, pedagogical principles)
- Why? (arguments that connect the what and the how).

Two common challenges may occur when you teach:

(1) The students may have very different levels of knowledge entering the course/the lesson. You should be aware of the different levels of knowledge the students have and try to have assignments and exercises at all levels.

The best thing you can do is to establish an environment where everyone is free to speak out, both the academically weaker students and the academically stronger students. When the students are not at the same academic or intellectual level in your class, it is important to be able to let the A-level students teach the C-level students and then let the A-level students know how much one learns by teaching others.

(2) Even at universities some students turn up unprepared. You should have a flexible plan so that you are prepared to meet a classroom of prepared and/or unprepared students; otherwise you may end up not being able to execute the plan for the lesson you have prepared. After a while, when you have become familiar with the specific students and their level of preparation, you will know what to expect.

### Share your requirements and intentions

- 1. Provide the students with a brief structured overview of a lesson: learning objectives, learning activities where are they going and how will they get there?
- 2. Always frame the activities, e.g. on "Group work: The first meeting" (How they will make it work with regards to e.g. group composition, barriers to communication, managing discussion, student feedback)
- 3. Let the students know which routines will frame your teaching, e.g. how classes will start and end
- 4. Let students know your procedures in class by inviting the students to come up with their needs and ideas characterizing a good learning environment, such as how do we give feedback in this class, what can be tolerated and what cannot
- 5. Show how you intend to engage the student'sideas to establish a safe learning environment in your class.

# Copyright

As an educator at Aarhus University, you will produce a range of different materials for educational and knowledge-sharing purposes. The right to use this material is yours, and you have a variety of options when it comes to protecting the work.

By Mads Ronald Dahl

## Copyright belongs to the employee.

It is important to consider how you want to protect or share materials. And as an employee, you should know that you are obliged to comply with agreements with CopyDan and rules on Copyright. For your teaching you will be making illustrations, charts, graphs, pictures, texts and models. Furthermore, you will be making use of materials produced by colleagues and co- workers or materials found in books, papers or on the internet.

AU Library keeps an updated page on your rights and obligations with regards to copyright: <u>http://library.au.dk/en/teachers/copyright/</u>

We encourage you to make yourself acquainted with your rights and obligations.

## Dialog in teaching and supervision

## By Mette Krogh Christensen and Tove Hedegaard Jørgensen

Dialog offers the opportunity for teachers to directly challenge students on their knowledge and understanding of a subject and identify any misconceptions. It can happen in all situations where teachers are working with students one-to-one or one-to-few (e.g. small group teaching, lab exercises, project supervision etc.). Dialog also offers a learning opportunity for students simply by allowing them to express ideas and knowledge to an immediately responsive listener. A common pitfall in educational situations is for teachers or project supervisors to use mostly authoritative instructions instead of (egalitarian) dialog (Table 1) either because time is short or because they are eager to help and give advice. There is a danger that teachers (unknowingly) 'lecture' the student instead of entering into a real dialogue with the student. It is therefore important to be conscious about strategies and tools that facilitate an interactive dialog with students in order to enhance learning. Key components are listening (not talking) and questioning (not answering).

	Interactive	Disconnected
	Listening	Allowing student views
Egalitarian	Acknowledging	Open-mindedness
	Discussing	
	Interrogating	Excluding student views
Authoritative	Correcting	Instructing
	Controlling	

Table 1. Positions in teaching based on degree of dialogue and interaction (inspired by Mortimer & Scott, 2003).

Different teachers may have different approaches to dialogues in teaching depending on their goal for the educational situation. Figure 1 outlines these from the teacher perspective. Different situations call for different teacher roles. When the aim is to develop independent learners, emphasis should be on the supervisory style of dialogue in teaching (the lower lefthand corner of Figure 1):

## PURPOSE OF DIALOGUE



Fig. 1. Teacher approaches to dialogue.

## **Formative Evaluation**

The primary purpose of doing mid-term evaluation is to improve teaching and hence student learning. By performing a mid-term evaluation, you make it clear that you take student's notions seriously, and that you are dedicated to improving the course and their learning.

## By Berit Lassesen

Unlike end-of-semester course evaluations, mid-term evaluation offers you an opportunity not only to make continuous adjustments in your teaching but also to return to the students with considerate commentary on their feedback and suggestions.

Before you start collecting data about your teaching, it may be useful to spend some time reflecting on your past teaching experiences to decide what you want to focus on for improvement. Some teachers might want to focus on a particular area of their teaching. For instance, they have tried a new method to encourage class discussion and want to find out if students have benefited from it. Others might want to focus on the course content, instructional strategies, class teaching, support for deep learning, or workload. Once the purpose of the evaluation is confirmed, you will need to select an appropriate method to collect the data. Because the goal is to improve your teaching, it is important that the data and evidence collected will have the potential of helping you to identify strengths and weaknesses and point to possible improvements. Therefore, the evidence collected should contain sufficiently rich information about the teaching and learning processes to provide a basis for change. For example, if you have tried a new approach to teaching a topic, you might want to find out what works, what does not work, and what can be done to improve it. (See below for further examples).

Having collected, processed and examined the students' feedback, you must now reflect upon it. Consider carefully what students say. Look over the positive things your students have said about the course. This is important because it is too easy to get influenced by negative comments. Then read their suggestions for improvement and group them into three categories: Those you can change this semester (e.g. the amount of out-of-class assignments), those that must wait until the next time the course is offered (e.g. course material), and those that you either cannot or will not change (e.g. provisional tests). Through such reflection you can attain a better understanding of your teaching practice.

It is important that students be informed about what will be done to address the issues they raised. Therefore, respond quickly to students' feedback. Let students know what, if anything will change as a result of their feedback. Students appreciate knowing that a teacher has carefully considered what they have said. Clarify any confusions or misunderstandings about your goals and their expectations. Then give a brief account of which of their suggestions you will act upon this term, which must wait until the course is offered next, and which you will not act upon and why. Let students know what they can do as well. For example, if students report that they are often confused, invite them to ask questions more often. And remember

that if students feel their feedback is used, they will be encouraged to give good feedback that is relevant and specifically targeted to improve teaching and learnin

#### Approaches to formative evaluation

#### Interview

The students interview each other in groups taking a starting point in a broad question such as "What is your personal learning outcome of the teaching? Does it live up to your expectations, why/why not? What can be done better?" Each group composes a short, written summary.

Together, the lecturers and the students attempt to elaborate and discuss the possible consequences and follow-up.

### The Delphi Method

On a piece of paper, each student lists three good things about the course and three things which could be improved. Afterwards, the papers may circulate between the students until they return to the author. When the students receive a piece of paper, they read the statements and put a mark next to the ones they agree with. The results are a series of statements about the teaching and an indication of how many students agree with the individual statements.

Finally, the class and the lecturer may proceed to discuss the result. Choose the statements which most students agree with – in both the positive and less positive category – and discuss them. In this way, not all statements will be discussed, and it could be a good idea to conclude the session by asking the students if there are any other topics they wish to comment on. In large classes, the students may be divided into groups who each circulate their papers among the group members. Advantages of this method are that the students contribute to setting the agenda via their statements, and that all students must consider and take a stand on all statements.

#### **Quick survey**

Make a quick survey in e.g. Google form or Blackboard. G<u>o here</u> for guides and further inspiration.

# **Group-based Supervision**

## By Søren Smedegaard Bengtsen

Group-based supervision involves students being supervised together in a group or cohort. The team cohort consists of the main supervisor, sometimes co-supervisors as well, and a group of 3-5 students, but sometimes more students may take part. Group-based supervision foregrounds the issues of social dynamics and feedback culture, and some of the *advantages* of team-based supervision include:

- Increased probability of timely completion, which is linked to an enhanced sense of community feeling and camaraderie that also develops students' competences in relation to collaborative work and joint problem solving.
- Enhanced critical thinking and reasoning abilities in students thanks to multiple and diverse forms of feedback. The feedback also helps students develop their writing skills, power of argumentation, and abilities to provide and receive feedback from peers and supervisors.
- Development and support of the students' academic and disciplinary identity formation and their sense of personal growth. Students' motivation for learning and institutional commitment are thereby strengthened.
- Generation and maintenance of intellectual learning environments and communities, and support for a good working atmosphere and work ethic.

However, group-based supervision also brings to the fore certain *challenges* which include:

- The intensification of destructive group dynamics, which may result in the segregation, and even bullying, of unpopular students. This requires more explicit work with community building and peer culture.
- The challenging of teacher authority and traditional student-teacher hierarchies. The role of the teacher changes from a dominant role front stage to the role of a facilitator and mediator of dialogue and feedback.
- The emergence of 'group think', where the group reproduces and reinforces a narrow, collective mindset and normative thinking.

To enhance the probability of a positive learning outcome, the following didactic approaches of 'framework', 'focus', and 'feedback culture' (the three 'F's) may be applied:

- *Framework:* The structural dimension for the supervision process should include alignment between supervisor and students on a number of issues:
  - Clarify who the main supervisor is and who will participate in the supervision meetings (in the group). Also, make clear when and where the supervision will take place, and what forms of communication will be used during the process.
  - Align expectations about supervisor and student roles and responsibilities.

For example, what should be prepared for each meeting, and how far in advance should any material be sent out, etc.

- *Focus:* Decide on the supervision elements for all meetings during the course programme:
  - $\circ$   $\,$  Agreements about what material, and how much, should be read before the meetings.
  - The structure of the individual meetings and the balance between the focus on the learning process and the focus on the exam product.
- *Feedback culture*: Decide on the most efficient and constructive approaches to the group setting:
  - Be aware of the asymmetry between the supervisor and students and work to ensure ensure the symmetry and mutual recognition and respect between the students.
  - Be aware of your dual role as the supervisor *and* facilitator of the meetings and feedback process.
  - If needed, start by training the students in how to provide feedback and draw from the criteria-based feedback model.

# **Online Supervision**

## By Søren Smedegaard Bengtsen

The nature of the supervisory dialogue changes when the face-to-face meeting is replaced by, or supplemented with, online communication. Supervisor and students will experience that the communication is now:

- *Multimodal:* Dialogue has become a combination of the spoken word, the written word, photos, sound, and video, which may be used before, during, or after the supervision meeting.
- *Doubled:* If several digital platforms and tools are being used together (e.g. LMS system, social media, and collaborative media), not only one but several conversations may be taking place at the same time. The different dialogues are not always aligned and coordinated.
- *Displaced:* While the face-to-face meeting is synchronous, many forms of communication online are asynchronous, meaning that you may write into the same stream, but not necessarily at the same time.

When applying digital media and tools in supervision settings, supervisors and students should be mindful of:

- Paying attention to and discussing the form of the conversation and the extent to which the different online platforms support each other. Do the digital media and tools support and enhance the quality of the supervisory dialogue, or are they disruptive to the aims and flow of the conversation?
- Creating and maintaining a synergy between the various online platforms and ensuring that the face-to-face meeting connects well with the forms of dialogue, feedback, and discussion online, which may have preceded, or will entail, the face-to-face encounter.
- Being and acting responsibly and ensuring a decent and civil tone and 'netiquette'. The tone of voice and 'online attitude' must be balanced to match the institutional and professional setting. Also, make sure that the media and platforms used align with the departmental IT policy and Data Protection Policies.

The supervisor should decide how many, and which, online platforms and digital tools are applied in the specific course module. The supervisor should align this choice with the person responsible for the course module (if not the supervisor herself) and ensure that the chosen platforms and tools support and align with the learning goals and exam forms described in the study guide. Furthermore, the supervisor should, at the beginning of the course module, clarify to students which platforms and tools are being used.

If several online platforms and digital tools are used at the same time, this may generate a synergy between the different media used, which is called a 'media ecology'. The most often used forms of digital media and tools used in supervision settings are:

#### LMS system (e.g. Blackboard, Moodle, AULA)

Most course modules are tied to a specific LMS system (e.g. Blackboard). Here, course material may be archived, and the platform may be used as noticeboard. Supervisor(s) and students may share material before the supervision meeting, just as questions, feedback, and work plans may be uploaded to keep everyone updated and informed. LMS systems are often easy to survey and manage as the communication takes place within a closed and secure system. Challenges include communication possibly seeming static and hierarchical, and the manager of the platform (typically the supervisor) usually being the only one who can create new folders and threads for conversation, whereby the students risk being reduced to passive learners.

#### Blogs (e.g. Pages Community)

A blog is typically a function within another system (e.g. Blackboard). Blogs support knowledge sharing and the testing of ideas in a more informal and creative manner. Blogs may be used to share drafts, notes, and more unfinished material and reflections before, or after, the supervision meeting. Blogs may also be used to continue the discussion between supervisors and students in between meetings, and to host freer and more casual thinking processes.

#### Collaborative media (e.g. Google Docs, Google Slides, Padlet)

Collaborative media are digital tools with which multiple people may write in the same document or programme at the same time. Such media support collective brainstorming processes and forms of synchronous written feedback. The written dialogue may be connected with the verbal one in the face-to-face meeting. In this way, the supervisory dialogue connects different modalities, which may open up for a more playful and creative thinking and learning process. However, the challenge is that the dialogue may be too 'crowded' and 'noisy' with the interference of several media at the same time.

## Videoconference (e.g. Skype, Google Hangouts, Adobe Connect)

Videoconferencing enables a mediated face-to-face dialogue which entails a visual and, thus, embodied dimension. The dialogue may thus take place in more spontaneous and intuitive manner even if those involved are not meeting face-to-face. Also, it may be helpful if a shorter meeting with immediate contact and response is wanted, but without the trouble of scheduling, room booking, and spending time and energy on transport. Using video in supervisory dialogues demands that supervisors and students reflect on and adapt to the extra layer of self-consciousness that may be involved when observing oneself on video while engaging in conversation with others.

#### Social media (e.g. Facebook, Twitter, Google Plus)

In contrast to LMS systems, students are often well experienced users of different social media, which they use for general communication and as a sharing tool. This means that planning and knowledge sharing take place without much delay, and the communication is often experienced as smoother and more intuitive and personal by the students. It is easy to

connect and link people and projects together via social media and thereby to create networks; whereas LMS-systems are challenged in this respect due to their closed structure. The open structure of social media demands an explicit awareness by students and supervisor in relation to what and how much info and material may be shared openly. Furthermore, the network-like character of social media presents a challenge for structure, overview, and systematic navigation.

## **Peer Feedback**

Peer feedback is a practice in education involving feedback being given by one student to another. The intention is to improve their performances, enhance their ability to evaluate their own work and thereby help them become self-regulated learners.

By Bente Mosgaard, Stacey M. Cozart and Rune Dall Jensen

## **Benefits of peer feedback**

Peer feedback increases the amount of feedback your students receive and enhances their skills in receiving and providing feedback. By providing feedback to others, the students increase their ability to understand and use criteria when assessing their own and others' performances. In this way, it strengthens the student's disciplinary understanding since students must explain and justify their evaluations when providing feedback. Reading and evaluating others' work helps students understand what is considered high quality work and why.

Dialogue: Dialogue provides a framework for co-constructing meaning and is therefore suitable for promoting learning

Self-regulation: The students' ability to monitor their own learning process

## Advice when using peer feedback

- 1. Discuss the relevant criteria and standards of your course or the specific assignment with students to help them provide feedback. (For an explanation of criteria and standards, see the "Feedback on written assignments" item.)
- 2. Have students assess former students' anonymized assignments so they can practice giving criteria-based feedback.
- 3. When providing feedback, students should justify their observations and give advice on how to improve the work.
- 4. Organize feedback so that students provide feedback to more than one student. This will allow them to see different solutions and expand their notion of how to perform the task.
- 5. Have students provide feedback on drafts so they can incorporate the feedback in the final version. This enhances the students' motivation, as their work will benefit directly from the feedback.

## Short feedback guide for students

- Compare the performance against the set criteria.
- Focus on only a few areas for improvement (examples: the content, the general argumentation, coherence), using concrete suggestions or advice.
- Give examples of good solutions and explain why they are good.
- Discuss with your peer and make sure that you understand each other.

• Start and end in positive terms.

### **Examples of peer feedback assignments**

#### Graduate students in assessing each other:

Students label their assignments with a symbol instead of their name. The educator distributes the assignments randomly. In pairs, the students evaluate two anonymized assignments on a scale from 1 to 3. To help them justify their evaluation, the educator provides a model answer and the quality criteria for the assignment. The feedback givers sign the assignments and return them to the writers, who can now ask for clarification of the evaluations. The educator randomly checks 5-10% of the assignments. (A. Axelsson(2005): Kan man lita på kamratgranskning?)

### Peer feedback on group assignments

Students write an assignment in groups. This provides an opportunity for informal peer feedback in the writing process. After writing a draft, each group uploads their draft on Blackboard. The groups are then put in pairs and read each other's drafts. In class they provide criteria-based feedback on the texts, with educator is available for answering questions when necessary. The final version handed in by the group includes a few lines on how the group has used the feedback in order to make the feedback visible to the educator and thereby improve its quality.

The educator provides feedback on the final version.

#### Peer feedback on individual assignments

Students write an individual assignment. The students provide feedback on drafts following the same procedure as in the group assignments.

### Using peer feedback: challenges and advice

Peer feedback can involve some challenges that the educator must try to overcome:

- Educators must share the responsibility for the feedback with the students.
- Students often have less confidence in feedback from peers than in feedback from the educator. Let each student get feedback from 2-3 peers. This will show both variation and consistency in comments.
- Students may not take the task of providing good feedback seriously if it does not 'count'. Let written feedback be posted on Blackboard and evaluate some examples with the class.
- Students may not feel sufficiently secure with each other to engage in the process. Make feedback anonymous or let peers give feedback in lasting groups, where they can feel comfortable.
- Time constraints can make it difficult to organize peer feedback. But it is often an investment which pays off when students have learnt how to do it.

## **Feedback in Class**

In-class teaching should comprise various opportunities for the students to get feedback on their understanding. If teaching only consists of one-way communication, students are unable to test their understanding, and they risk leaving the classroom without having learned anything.

## By Bente Mosgaard, Stacey M. Cozart and Rune Dall Jensen

## Feedback as an integral part of classroom teaching

Feedback in this setting is mostly dialogue between students and between the students and the educator. When entering into dialogue with the students, educators become aware of the students' understandings and can provide feedback. When students enter into dialogue, they help each other understand the topic.

## Incorporating feedback into teaching

When planning your lessons, think about ways for students to receive feedback in class. (Some examples are provided below.) This includes thinking about ways to reduce the amount of one- way educator communication in class in order to make time for feedback activities. Encourage students to participate and interact in class discussions as these offer important opportunities for feedback. You can also provide feedback on students' feedback to each other. Finally, keep in mind that the students' performances should be used as a kind of feedback to inform and shape your teaching.

## **Examples of feedback activities**

### Think-pair-share

Ask a question and have the students pair up, think about an adequate answer, and share it with each other. After this feedback from a peer, students are usually more willing to enter a class discussion.

## **Google Slides**

Make it possible for students to ask anonymous questions during a lecture using software like <u>Google Slides</u>. With this tool, you can make visual presentations for your lectures and allow your students to write their questions online while you are talking. You can take the questions into your presentation and answer them whenever you want.

### **One-minute paper**

Ask students to answer a few core questions from the lesson on a sheet of paper before leaving the classroom. Collect the sheets and address any misunderstandings in the next lesson. Alternatively, students state their take-home message from the lesson. In this way you get feedback about what the students perceived as being most important in the lesson.

### **Group work**

Have students solve problems or discuss in groups. Many students are more eager to speak up in small forums.

### Jigsaw

For an out-of-class activity, divide a task (e.g. a reading task) into 4 parts in such a way that each member of a study group can read it all but is only committed to explaining his part. In class, assemble students with the same small task in groups of about 4 students and ask them to reach a conclusion about how to perform the task (e.g. explain the text part). Then have the students return to their study groups and assemble the whole (reading) task. Add, if necessary, a class discussion.

### Feedback on post-its

Give a group assignment. Have the groups report the results of their work on posters (flipchart sheets or something similar). Provide each student with post-its of different colours: one for "agree/like" and one for "disagree/dislike". Give students a sufficient amount of time - e.g. 10 minutes - to study the posters and place their post-its with a few words of explanation. Ask some of the students to clarify the comments on their post-its, and let the session turn into a class discussion of the topic in question.

### **Peer instruction**

Ask a multiple-choice question that can only be answered if what you presented is understood correctly. Questions that have a right or wrong answer are best suited for this activity. Let students answer with voting technology (for example, AU Vote, free online software) or by raising their hand. If a sufficiently large number of students get the wrong answer, have all students seek out a peer that has given a different answer and ask them to spend about 4 minutes convincing each other of the correct response. Then ask all students the same question. You will find that a lot of students have been convinced by the right answer. Students often understand each other better than they understand the educator (Mazur, 1997).

### Challenges

Feedback can involve some challenges that the educator must try to work with:

- At first, preparing relevant activities using feedback in class can be time consuming; however, with practice and experience, in-class feedback opportunities will become easier to incorporate in your teaching.
- It can be challenging to think of ways to make time for feedback in class without reducing the amount of materials to be covered. Can some of your material be discussed or covered online by you and your students in a discussion forum or a wiki?
- Some students may be unwilling to enter into dialogue: students who have not done the required readings or assignments at home may not wish to participate, and others may be unwilling to discuss with their peers or answer questions in front of the class. One way to deal with the problem is to organize reading in jigsaws. It makes the task

smaller but more binding. Think-pair-shares make it safer to enter into dialogue.

• Finally, educators must share the responsibility for the feedback with the students.

## Feedback on Written and Oral Assignments

Feedback is motivating for students because they get information about their learning progress. And good feedback improves performance because it gives students standards to work towards and decreases their trial-and-error learning.

By Bente Mosgaard, Stacey M. Cozart and Rune Dall Jensen

#### Feedback as dialogue

Feedback provided on finished work is less effective than feedback provided in the process of writing and problem solving. This is because feedback during the working process can be provided in dialogues, ensuring that students have understood the feedback, and they are more likely to use the feedback when it can improve the quality of their current work. We recommend a combination: feedback on drafts by peers or the educator and on finished work by the educator.

#### Why feedback?

Feedback is often referred to as information given to the student concerning his or her performance or understanding (Hattie 2007). Therefore, assessments during the course are important opportunities for the student to get feedback. Feedback on written assignments can take many forms: individual feedback can, for instance, be written comments in the student's text or dialogues about it (typically in peer groups), and collective feedback can be provided written or orally, when a whole class has treated the same subject or solved the same problem complex. Feedback on oral assignments such as student presentations can, when provided in class, clarify quality expectations and standards of the discipline to the whole class.

### The three elements of feedback

Feedback on a student's work, whether written or oral, must contain three elements answering three questions:

- 1. Feed Up: Where am I going? The overall learning goals related to the task or performance expressed in quality criteria and standards
- 2. Feed Back: How am I going? The learner's performance related to the criteria and standards
- 3. Feed Forward: What is the next step? Specific tools and methods for improvement.

**Criteria:** The learning goals for the course or for the specific assignment. You will find learning goals for the course as a whole in your course description.

**Standards:** Levels of achievement within the different criteria – that is, the description one would give to clarify the expectations for a given grade level.

Educators must talk to the students about the criteria mentioned in the course description for the final exam and relate them to the students' performance. It is important to clarify how students can meet the criteria on different levels. For example, a student may be required to discuss a point in his assignment, and he does so, but not at a level that meets the expected standard.

## What to focus on

- Compare student performance against criteria and give advice on how to improve.
- Focus on only a few areas for improvement. Give concrete suggestions or advice (e.g. as margin notes).
- Give examples of good solutions and explain why they are good (e.g. as margin notes).
- Give a general evaluation of the performance (e.g. at the end of the assignment).
- Make sure to use a motivating tone and language that can be understood by the student.
- Provide feedback while the students can still remember what they have written and soon enough for them to be able to act on it.
- Provide opportunities for questions.

## Examples of how to organize your feedback

## Feedback on drafts and the final version

Let students hand in their assignment and provide individual written feedback. Ask students to resubmit their assignments, showing how they have changed the text. Provide feedback on the final version (See also the "Peer feedback" item).

## Feedback with focus on criteria

A feedback process for courses with one required writing assignment, in three steps (over several weeks):

**Step 1:** To understand criteria: Discuss the assessment criteria; maybe let students add some. Ask students to mark 1-2 assignments by former students and discuss their evaluation with them, showing them your own evaluation.

**Step 2:** To identify major misconceptions: Let students submit a draft of the assignment and provide feedback on the most important issues.

**Step 3:** Finally, provide feedback on the final version of the assignments. Have a short dialogue with each student to clarify misunderstandings (Beaumont et al, 2014).

## **Collective feedback in process**

Provide a 5-to-15-minute-long presentation in class or online of what you expect to be the main challenges in an on-going assignment. Students then use your input to provide peer feedback or to correct their own assignment. It is important to ensure that students have time to correct their work before handing in the assignment. Provide individual feedback.

#### **Collective feedback on group assignments**

**Week 1:** To foster the students' understanding of a topic: Give the students a light written task to perform in groups – for example, a brief overview of core concepts in the topic area of an upcoming assignment. Let them post their answers online and give them feedback online or in class.

**Week 2:** Guide their reading for the Week 3 assignment, for instance by asking questions for them to reflect on.

**Week 3:** When the students have submitted their assignments, select two or three of them as anonymous model answers and post them with comments, so that the groups can compare their work against the exemplars. This should accompanied by a class discussion in which students can ask questions, either in the classroom or online (David Nicol, 2009).

See also the "<u>Peer feedback</u>" item.

#### Challenges

Feedback is a time-consuming learning activity, and with large classes or low budgets it can therefore be difficult for educators to find the time to provide thorough feedback. In addition, if students only get feedback from their educators, they may remain dependent on others' judgments. A mixture of educator and peer feedback is recommended and can be the solution to both problems. Another important challenge is that students may not understand the educator's comments, which is one of the reasons why students do not always act on the feedback. Feedback should therefore be organized as dialogue.

## **In-class Toolbox**

Quality teaching in-class is achieved through the alignment of learning activities, learning outcomes and assessment. When planning in-class teaching you should plan to get leverage from the fact that you are able to create a social situation with your students. You must plan to keep students active and engaged in the subject matter in a way that reflects back upon students' skills, knowledge and competences.

By Peter Musaeus, Karen Louise Møller, Lea Lund, Sarah Robinson, Linda Greve and Mikkel Godsk

Below we present a number of practical teaching activities and considerations when teaching in-class (seminars, small-group teaching etc.). Each activity is described and supplemented with notes on where and why it should be considered.

### Ice-breaker

The idea of an ice-breaker is to break the ice (e.g. create less nervousness, tension or distance) between you and the students and between the students. An ice-breaker can make students engaged at the beginning of the class and re- activate them during class. Some ice-breakers are mainly intended to create social proximity between students and allow them to talk more freely, but you could also design your ice-breaker to more specifically be about the topic of the lesson. Below are four different examples of common ice-breakers:

- 1. "Break tensions". Have participants formulate questions to each other (what did you do over vacation? Favorite sports, food etc.) and have them walk around class answering the questions and rotating them to others.
- 2. "Pair and ask students to recall". Ask a question at the beginning of class concerning either the topic of the day or of the previous lesson. Let the students reflect on it in pairs and then report back to you. This will help them remember the things they read, and you will get them talking at the beginning of the class, which will make them more likely to talk during class as well.
- 3. "Stimulate recall". Ask the students to stand up, walk around, and greet at least 4 others, telling them e.g. three things they remember from last week or from what the read at home. It serves the same purpose as the exercise mentioned above, but it will probably get the students to interact more.
- 4. "Count to 21". It serves the purpose of getting students to concentrate and focus on each other. The rules: Only one student can say a number at a time. One student says "1" and then another says "2" and so forth. Since only one student can say a number at a time, they must concentrate and pay attention to each other. Most times students will only get to 4 or 5 before two students say the same number at the same time. Then they will have to start over.

*Number of students:* Example 2 will work in all classes. Examples 1, 3 and 4 will work best in classes with 50 students or less.

Overall purpose: To get students to talk and to focus on and listen to each other.

#### **Double loop discussion**

Loop: Let the students discuss in groups what they expect from the course without you priming them beforehand. Let them share their thoughts to the whole class orally or on posters, then present the learning goals/outcomes relating to their words and concepts. 1. Loop: Let them reflect in groups upon how that changes their initial expectations.

#### Where and why to use double loop discussion:

Number of students: Smaller classes, below 50 students.

*Overall purpose:* To let the students focus on their expectations and provide you with that information, which you can then correct.

#### **Think-pair-share**

Think-pair-share is good way of getting students to use their own words and make them reflect from understanding a theory or a model to applying it to a case,.

Ask the students to write a few keywords about the topic you want to work with. This individual reflection in writing is a crucial step to getting the students to participate actively in group work. The next step could be to simply ask the students to talk to each other in pairs about what they have written. Ask them to find out what they agree upon and what they do not agree upon.

Finally, the pairs will be ready to enter into a discussion with the whole group and eventually in the whole class when you want to have a class discussion.

### Where and why to use Think-pair-share:

*Number of students*: As long as the groups can sit and work together in the room, there is no limit to the number of students.

Overall purpose: To encourage students to be engaged and active in purposeful activities.

#### **Student response systems and Peer Instruction**

In large classes student response systems such as Mentimeter and clickers are useful tools to get feedback from the students in order to activate them and to adjust the teaching. All employees at AU have access to a system called 'Mentimeter' (also referred to as 'AU VOTE') and additional tools such as clickers are provided at ST and Arts. Mentimeter allows students to vote and answer questions during classes using their smartphone, tablet, or computer; while the clicker system consists of a set of handheld devices that is handed round to the students.

The systems may be used in various ways; however, a scientifically proven effective method to integrate these systems in teaching practice is Peer Instruction (PI). The essence of PI is that the students learn by trialing, discussing, and applying the curriculum through a simple process: the educator poses a question, the students reflect and answer, and the educator reviews the responses and decides whether the students should discuss with peers and answer again. You can read more about PI in this article by <u>Crouch and Mazur (2001)</u>. The process is explained in further detail in the video below.



<u>Peer Instruction at the Faculty of Science and Technology: Using clickers to engage students</u> <u>one-to-one, all at once</u>

Research shows that appropriate use of clickers may not only have cognitive effects (increase the students' knowledge), but may also have non-cognitive effects (increase student attendance and satisfaction) (Hunsu et al., 2016).

## Where and why to use of Student response systems:

*Number of students*: No limit.

Overall purpose: To activate students and to assess their level of understanding.

### Poster presentation: Gallery opening

Let students in groups discuss an answer to a case or an assignment. Let them in groups present their answer in poster format. Set a timeframe allowing for depth and appropriate degree of time pressure.

One group member from each group stays by the poster and the rest of the students go and visit the other posters to see how other groups solved the task. The one staying at the poster presents the group's solution.

**Where and why to use Poster presentation:** *Number of students:* As long as the groups can sit and work together in the room, there is no limit to the number of students.

*Overall purpose:* Students solve a specific task and are given the opportunity to see other solutions and get inspired to think in different ways about the task.

#### **Group work**

If you ask your students to work in groups, you will need to consider the outcome you intend. There may be a number of reasons for doing group work, such as for collaboration, cocreation, discussion, analysis, evaluation, peer feedback, planning presentations, and writing. Making groups of more than 6 people can be challenging. It is better to keep groups to 6 or under. Group work can be used in a whole range of situations where students need to have someone else help them reflect on their understanding of a text, a concept or a theory. When group work functions well, everyone will know their role, work together, be positive, engaged and active.

#### Where and why to use group work:

*Number of students:* As long as the groups can sit and work together in the room, there is no limit to the number of students.

Overall purpose: To let students be engaged and active in purposeful activities.

#### Learn more

Find inspiration at <u>Center for Excellence in Teaching and Learning</u>, <u>University of Wisconsin-au claire</u>

Find more exercises at <u>Center for Teaching</u>, <u>Vanderbilt University Mentimeter (AU Vote)</u> <u>manual</u>
## **Out-of-Class Toolbox**

Online/digital tools help students work actively between classes. This toolbox presents you with a selection of tools, tells you how to choose the best one based on the learning outcomes for your activity, and provides you with instructions for using them.

## By Janne Saltoft Hansen

Digital tools are often used in out-of-class activities to make it possible for students to work between classes. The range of tools is infinite, and the tools all have different features and support different learning methods. Therefore, when choosing a tool it is important to base the choice on learning goals, learning outcomes and type of the activity planned. (Bower, 2008)

### Consider the following steps before choosing a tool:

- Identifylearninggoals  $\rightarrow$
- Postulate suitable activities to fulfil the goals  $\rightarrow$  Identify
- Define what features are needed in a tool to accomplish the activities.

#### **Example:**

- 1. Learning outcome: After the activity the students are expected to be able to: Reflect in a written discussion using argumentation based in the literature.
- 2. Activity: The educator describes a dilemma Students are assigned specific roles and positions Students discuss the dilemma in writing using argumentation reflecting their given roles and positions.
- 3. Features needed in the tool: The tool should be suitable for discussion The tool should allow students to argue and comment on other students' argumentation Posts and comments should be shown chronologically
- $\rightarrow$  Tool chosen: Discussion Board in Blackboard

Having explicit defined which features are needed this can be matched with the actual features of the tools. The affordance analysis beneath provides an overview of some of the most common tool and most essential features.

Click to watch a video about the tool and how to use it.

Affordance	Collaboration	Assessment	Reflection	Problem	Debate	Synchronous
analysis				solving		
Blog*	Х		Х		Х	
Wiki*	Х			Х		
<u>Test*</u>		Х				
Assignment*		Х	Х	Х		
Conference					Х	Х
Tool						

\* Available in Blackboard

## **Planning activities**

When planning out-of-class activities it is very important to

- relate the out of class activities to the in-class activities;
- create coherence between the out-of-class activities and clarify how they connect;
- explicitly describe to students why, where and when an activity should be done and how the tool is used in the activity.

Several of the faculties at Aarhus University provide tools for planning out-of-class activities.

# Using rhetoric in your teaching

With a few simple steps of preparation, you can support and structure your teaching as well as motivate and engage your students by appealing to their emotions, reason and intellect and by building and maintaining your credibility as a teacher.

### By Linda Greve and Jens Laurs Brøndum Kærsgaard

Whenever we communicate, we make use of rhetoric. This is a short introduction to how you could make beneficial use of rhetoric in your teaching. Rhetoric is the art of motivating your audience through oral communication – not the art of making PowerPoint slideshows. When you teach, dare to be the bearer of the presentation yourself – not only to deliver a soundtrack for your slides.

It is important to note that preparing a rhetorical speech is not in accordance with modern teaching and learning practices. It is not recommended to deliver a one-way-speech in class for 45 minutes. However, we can make use of some of the elements of rhetorical speeches and use them for the benefit of ourselves and the students.

The main objective when preparing your teaching is to prepare to be present in class with the students. If your teaching could just as well have been a video, you lose the imperative of orality: that it is imperfect but engaging and in real time. For the student, being in that classroom with you as a teacher and with the other students should be a social experience – and that has to be evident in the way you plan your teaching. Don't plan your teaching by quickly running through your slides while whispering key concepts and thinking "I could say something about that". Make a coherent storyline based on what the students should know and understand at the end of the class, and then, if you want, illustrate the points by using slides or the blackboard.

"Have you ever transcribed an interview or a conversation? Then you know that oral language put in writing sounds wrong – stupid even. We mix up the tenses and forget to finish a sentence here and there – but most times it all makes sense in context. The same is true for written language in an oral setting – use that knowledge when you prepare your teaching and make it oral, present and imperfect."

Some of the fundamental theories in classical rhetoric are accredited to Aristotle and are therefore well tested and involve highly developed procedures. The three ways to appeal to an audience in classical rhetoric are ethos, logos and pathos, which are linked to the teacher, student and content in the didactical triangle. At universities in general we rely heavily on ethos and logos as a means of persuasion and credibility and are not always sufficiently aware of pathos. By considering all three forms of appeal, you will become more aware of your teaching style and ways to structure a good presentation.

**Ethos** is connected to how trustworthy you come across as a teacher: your ability to come across as knowledgeable, your ability to create a good atmosphere in class and your ability to

show your goodwill towards the students.

**Logos** is in the content. By referring to books and research, by showing models, graphs, methods and analyses you appeal to student's sense of logic and reason. This is also how you build their skills as novice researchers: you show them how arguments are built and supported in your field of study and research.

**Pathos** is with the students. It is their state of mind. Effective ways to appeal to pathos in class are by using humour (and if they laugh, you know they are with you), by appealing to the students' sense of unfairness/fairness and by using episodic memory – cases, analogies and metaphors. However, be aware that you will have to explain your use of figurative language – e.g. comparing an organization to a machine or the brain to a computer – otherwise the students might not be able to decipher which parts of the machine and the organization you find comparable. By engaging students' emotions, they are more likely to listen and reflect on the content as well as to relate it to their own life.



The three forms of appeal are highly interlinked and affect each other in any rhetorical situation.

When preparing your teaching, you can gain some valuable insights from the field of classical rhetoric as well. Even though there is a substantial difference between preparing a presentation of, for instance, your research and preparing to teach, some elements are the same. Watch the video below to get some ideas for how to prepare to generate strong appeals to ethos and logos and the right kind of pathos.

#### [VIDEO: https://player.vimeo.com/video/284708843]

### Checklist for preparing to teach:

- Consider how to create a good atmosphere in class from the second you enter the room (for more about this, read and watch the 'body language' learning element).
- Start your preparation by determining three take home messages about what the students should know, understand or be able to do after this particular class.

- Make a storyline for your class based on the learning goals for the class and then follow it up with illustrative slides.
- Plan to involve and activate the students preferably at 10-15-minute intervals.
- Remember to link today's material to last week's at the beginning of class, and to link to next week's class at the end even if you are not teaching these classes. This will provide the students with a sense of coherence.

## **Video in Education**

Video is becoming a key media in education as a transformation of traditional teaching practices into flexible, blended, and online learning. Learn more about the video services and formats and how to integrate video in your teaching practice.

### By Mads R. Dahl & Mikkel Godsk

Lectures are being recorded and made available to students as asynchronous and/or synchronous resources for repetition and distance education, web- and podcasts are produced to explain difficult curriculum and/or provide feedback, and supervision is provided using video conference systems such as Skype, Google Hangout, FaceTime, and Adobe Connect. Altogether, video may have many roles but may at the same time be an expensive and complex affair to produce and integrate. In order to address this, AU provides different video solutions, such as lecture capture facilities, webcast studios, media labs, video recording kits, etc.

Videos can have multiple formats and be used in various ways in higher education. The following video formats have all proven useful in higher education and are supported at AU.

Format	Characteristics and	Potential and	
	availability	downsides	
Webcasts	A wide term used at AU to refer to videos recorded in one of the video studios available at ST and BSS, and/or video streamed over the Internet via, e.g., Adobe Connect.	Webcasts have proven useful for e.g. explaining concepts and theory that the students may usually find hard to grasp and need to revise and to provide feedback. A short webcast of a pivotal topic or with an example may also be useful for assignments, lab work, and other learning activities.	
Screencasts	Video recording of the screen with/without speak-over. Camtasia screencast software is available on all faculties upon request and Screencast-O-Matic may be downloaded for free.	Screencasts are often used for recording PowerPoint presentations or demonstrate software and web pages. In general, screencasting is considered a convenient way of making short video presentations of	

		curriculum, but watching lengthy PowerPoint- based screencasts may be daunting.
Tablecasts	Term for videos made on tablets/iPads. Depending on software tablecast may consist of screencasts or sketching with voice-over, including various media. Tablets are on loan at BSS, HE, and ST.	Tabletcasts may be a useful way of providing rapid feedback to students, for group work assignments. Documenting fieldwork, etc. Making quality tabletcasts require dedicated hardware and a sketching pen such as the Apple Pencil.
Lecture capturing	Another term for recording of lectures. Selected auditoria at ST and HE has build-in recording facilities so that the educator can record the lectures more or less automatically. Elsewhere the recording has to be done manually.	Recorded lectures are useful for repetition but may also be used for certain distance education purposes. Lecture captures in itself do not ensure learning. Rather they may encourage to a passive learning approach if not activated and/or supplemented with activities or other materials. Lecture capturing requires expensive, pre- installed equipment in the auditorium or a complex manual setup.
Mobile and lab videos	Smartphones, tablets, and handycams used for just- in-time (and authentic) recordings. Various video equipment is available across AU on loan.	Mobile and lab videos may be useful to make short and rapid videos explaining theory, demonstrating practice, and for feedback. The format may be used as a substitution of real-

		life demonstrations and face-to-face feedback, and thus abolish the two-way dialogue between the student and educator.
Video conferencing	An inclusive term referring to both hardware based video conferencing solutions at AU, such as LifeSize, Polycom, etc., and the software based solutions such as Skype, Facetime, Google Hangout and Adobe Connect. Adobe Connect is freely available to all universities in Denmark at <u>c.deic.dk</u> . The remaining solutions are either freely available or available in selected meeting rooms.	The features of the different conferencing systems changes constantly; however, a rule of thumb is that Skype, Facetime, and Google Hangout are useful for group work, feedback, and small class teaching; while Adobe Connect and the hardware based solutions are useful for larger groups. The software based solutions usually includes various collaboration tools.
	software based solutions such as Skype, Facetime, Google Hangout and Adobe Connect. Adobe Connect is freely available to all universities in Denmark at <u>c.deic.dk</u> . The remaining solutions are either freely available or available in selected meeting rooms.	Hangout are useful for group work, feedback, and small class teaching; while Adobe Connect and the hardware based solutions are useful for larger groups. The software base solutions usually includes various collaboration tools

#### The six minute attention span

Research on MOOCs shows that students have a shorter attention span when watching web- based video compared to other teaching and learning activities. The ideal length is six minutes and should the video be longer the student will start zapping. If the length is more than 12 minutes merely three minutes will be watched. Obviously, these results cannot be directly transferred to all university teaching contexts; however, they do highly the importance of being concise and that video will not function as a direct substitute of face-to-face teaching without some level of pedagogical integration.

As a consequence web-based videos such as webcasts, tabletcasts, mobile video, lab videos, and screencasts should address this attention span by not exceeding 6-12 minutes (NB: video conferences and lecture captures are usually longer but so also serve other purposes). If the content cannot be provided in less than 12 minutes, the video should be split in two and 'linked' together. There are different ways of linking videos, including using 'learning modules' in Blackboard, making playlists on YouTube, linking between the videos in Vimeo, etc. Blackboard provides a tool called 'Kaltura' for hosting videos, which nicely integrates with other tools and content in the system. In addition, videos uploaded to YouTube, Vimeo, LifeSize, and other systems are easily embedded in Blackboard via the text editor.

Furthermore, it is worth considering ways of activating the content of the video in order to support 'active learning'. The video in itself may activate (or at least motivate) the students by including thought experiments and teasers or by posing questions that will not be answered before the end of the video or the next video. However, videos in Blackboard may also be activated by means of quizzes trialing the student's knowledge, serve as a background resource for online discussions, or for preparation activities together with other materials in a learning module.

#### Step-by-step guide

Consider which format that will be suitable to the content you are providing and check whether the format is supported at your faculty; Strive to divide your content into logical shorter chunks of six, and max 12, minutes; Produce the video(s) by means of already available or free software, or contact your local media lab or educational units for additional support (see list below) Integrate your videos in your teaching practice by developing an activity or other materials that activates/refers to the video. Videos may be shared with the students using Blackboard's Kaltura tool, YouTube, Vimeo, or other video systems.

#### Learn more

Video assistance is available through the media labs and educational units at AU: <u>EdTech Lab at ARTS</u> Medialab at ST <u>MediaLab at BSS</u> <u>Video production at HEALTH</u>

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