

THE FLIPPED CLASSROOM: DESIGN CONSIDERATIONS AND MOODLE

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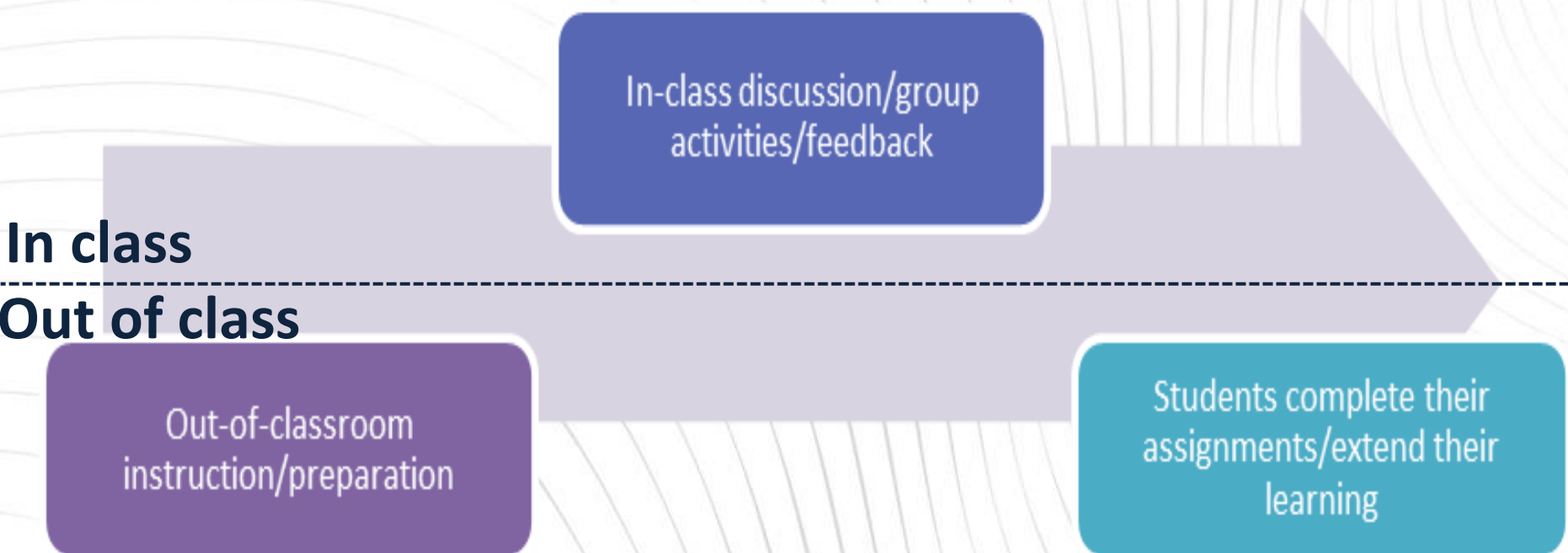
Agenda

- Short introduction to the flipped classroom
- Steps for implementing a flipped classroom
- Hands-on activities
 - Quizzes
 - Feedback
 - Reports
- Summing up / questions

What is a flipped classroom?



The flipped classroom framework



Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

flipped
learning
network

Related theories

- Active Learning
- Collaborative and Cooperative Learning
- Peer-Assisted Learning

Benefits - students

- Can learn at their own pace
- More time working with equipment available in classroom
- Sick/absent students can still watch the lectures
- Promotes reflection inside and outside of the classroom
- More actively involved in the learning process
- Take ownership of their own learning
- Provided opportunities for review

Benefits - teachers

- Guide on the Side vs. Sage on the Stage
- Get better insight into student difficulties
- Can easily customize and update the curriculum
- Have reported increased levels of student achievement, interest, and engagement
- More time to spend with students on authentic research or supporting learning
- Better connect with students

Concerns

- Relies on preparation and trust
- Significant work on the front-end
- Time in front of screens is increased
- Inability to monitor comprehension and provide just-in-time information out of classroom

Steps of how to implement a flipped classroom

1. Implement out-of-classroom instruction material
2. Review student work before class
3. Decide on classroom activities and on your role in the class
4. Select the materials for class
5. Implement in-class activities
6. Implement post-class activities
7. Evaluate and assess your implementation

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Out-of-classroom instruction material

- Podcasts, videocasts, videos, etc (your own, online? e.g. Khan Academy)
- Reading
- Quizzes
- Assignments
- Feedback

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Hands-on activities in Moodle

1. Go to Moodle: <http://sandbox.moodle.aau.dk>
2. Select “Log in” in the upper right corner and then “other users”
3. Select the button “Create new account”
4. Fill in the form choosing a username and a password
5. You should receive an email with an activation link
6. Click on the link and select the ETALEE course
7. Use the key: 123456 to enroll as a teacher

Creating a quiz

- Select the Turn editing on button
- In the Quizzes topic, select “Add an activity”
- Select Quiz from the list
- Select the Add button
- Enter the name of the quiz, e.g. Geography I or your name
- Enter directions, instructions, objectives, etc.
- Enter open and close dates and times for the quiz
- Choose from the various options provided
- Select the question mark icon next to the choice If you are unsure about any of the settings

How questions behave

- Students enter an answer to each question and then submit the entire quiz, before anything is graded or they get any feedback → 'Deferred feedback' mode
- Students submit each question as they go along to get immediate feedback, and if they do not get it right immediately, have another try for fewer marks → 'Interactive with multiple tries' mode

Grading with Certainty-Based Marking (CBM)

- Deferred feedback or Immediate feedback with CBS option

Certainty level	C=1	C=2	C=3	No Response or 'No Idea'
Mark if correct	1	2	3	(0)
Mark if wrong	0	-2	-6	(0)
Probability correct	< 67%	67–80%	>80%	-
Description	Unsure	Mid	Quite sure	-

Creating quiz questions

- From the Edit quiz page **OR** from the course homepage > Settings block > Question bank, select Create a new question button
- From the list of available options, select multiple choice question type
- Select the Next button

Example of multiple choice question

▼ General

Category

Question name*

Question text*

Rich text editor toolbar with the following icons and controls:

- Paragraph dropdown menu
- Bold (B) and Italic (I) buttons
- Bulleted list and Numbered list buttons
- Link, unlink, and chain buttons
- Image, video, and document icons
- Undo and redo buttons
- Underline (U), Strikethrough (ABC), Subscript (X₂), and Superscript (X²) buttons
- Text alignment buttons (left, center, right, justified)
- Text color and background color dropdown menus
- Text direction (RTL/LTR) buttons
- Font family and font size dropdown menus
- Code, table, undo, redo, link, unlink, and other utility icons

What is the capital of Denmark?

Path: p

Quizzes

- Importing questions: Aiken format
- Math equations (Moodle equation editor or import images)
- If you are familiar with Latex, use an online Latex equation editor for generating equation images, e.g.
- <http://www.codecogs.com/latex/eqneditor.php>

Feedback Activity in Moodle

- Requesting feedback on the out-of-classroom instruction (also post-class)
- Motivate students
- Get insight into difficulties
- The questions aren't graded - If you want to grade students' answers use a quiz

Create a Feedback activity

- Turn editing on
- In the Feedback section, click Add an activity
- Select Feedback
- Click Expand all at the upper right corner
- Enter a name and some description (instructions)
- Choose from the various options provided

General

Name*

Questions on out-of-classroom preparation

Description*

Paragraph **B** *I* [List] [List] [Link] [Unlink] [Link] [Image] [Table] [Print]

Your feedback will shape the way the course is designed and delivered....

Path: p

Display description on course page

Availability

Allow answers from 21 April 2015 13 10 Enable

Allow answers to 21 April 2015 13 10 Enable

Question and submission settings

Record user names Anonymous

Allow multiple submissions No

Enable notification of submissions No

Auto number questions No

Create feedback questions

Questions on out-of-classroom preparation

Overview

Edit questions

Templates

Analysis

Show responses

▼ Content

Select ▼

Select

Add a page break

Captcha

Information

Label

Longer text answer

Multiple choice

Multiple choice (rated)

Numeric answer

Short text answer

Preview ?

Feedback

- Captcha – prevents spambots completing online forms
- Branching questions (only display if the user answers another question in a certain way) – add a page break
- Multiple choice questions (rated) for Likert scales
- Labels and information

Test feedback

[Overview](#) [Edit questions](#) [Templates](#) [Analysis](#) [Show responses](#)

Multiple choice

Required

Question

Label

Adjustment

Multiple choice type

Do not analyse empty submits

Hide the "Not selected" option

Multiple choice values

Use one line for each answer!

Required

Question

Label

Textfield width

Maximum characters accepted

Dependence item

Dependence value

Position

Save question

Cancel

Test feedback

- Overview
- Edit questions
- Templates
- Analysis
- Show responses

▼ Content

Select ▼

Preview ?

⊕ (1) Did you like the video lectures? (Position:1) ⚙️ ⚙️ ✕

Yes

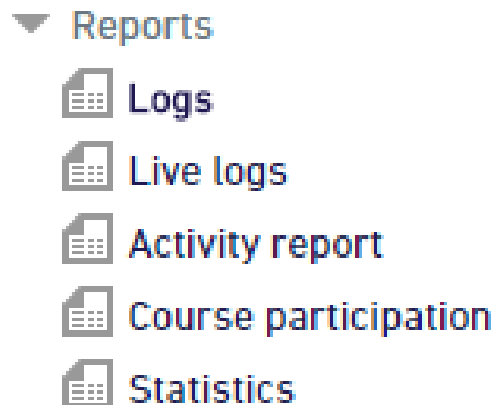
No

⊕ (2a) Why did you like the video lectures? (1->Yes) (Position:2) ⚙️ ⚙️ ✕

⊕ (2b) Why did you not like the video lectures? (1->No) (Position:3) ⚙️ ⚙️ ✕

Generate Reports in Moodle

- Settings > Course administration > Reports
- Select the report you want to see from the expanded menu



Reports on Moodle

- Logs of activity in your Moodle course for various periods
- Course activity reports showing the number of views for each activity and resource (and any related blog entries)
- Participation reports for a particular activity
- Graphs and tables of user activity
- In order to observe if students do their preparation
- Alternatively questionnaires but not objective

Generate Logs


The screenshot shows the Moodle course administration interface. On the left is a sidebar menu with the following items: ADMINISTRATION, Course administration, Turn editing off, Edit settings, Users, Filters, Reports, Logs, Live logs, Activity report, Course participation, Statistics, and Grades. The main content area shows a breadcrumb trail: My home > My courses > Undervisningens dag > Tools for supporting the flipped classroom instruction. Below this is the heading "Choose which logs you want to see:". There are three filter boxes: "Tools for supporting the flipped classroom instruction model - C01", "All participants", and "All da". Below these is a table with columns for course name, actions, and log type. The first row shows "Introduction to Moodle Quizzes" with a "View" dropdown menu open, showing options: "All actions", "Create", "View" (highlighted), "Update", and "Delete". The log type is "Standard log".

Course Name	Actions	Log Type
Introduction to Moodle Quizzes	<ul style="list-style-type: none">All actionsCreateViewUpdateDelete	Standard log


- Change the Standard log dropdown to Legacy log for logs prior to a Moodle upgrade

Tools for supporting the flipped classroom instruction model - C01

Computed from logs since Thursday, 20 September 2012, 4:17 PM.

Activity	Views	Related blog entries	Last access
 News forum	3-		Wednesday, 22 April 2015, 2:32 PM (20 hours 15 mins)

Quizzes

 Introduction to Moodle Quizzes	24-		Wednesday, 22 April 2015, 2:21 PM (20 hours 26 mins)
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Feedback


 Create a Feedback Activity in Moodle	24-		Wednesday, 22 April 2015, 2:26 PM (20 hours 22 mins)
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Reports

 Generate Reports in Moodle	13-		Wednesday, 22 April 2015, 2:28 PM (20 hours 19 mins)
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Topic 4

 Test af test uv dag	37-		Wednesday, 22 April 2015, 5:58 PM (16 hours 50 mins)
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 Feedback test	--		
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Thank you!

- Work on the flipped classroom planning and implementation is supported by the head of School of Information and Communication Technology and the head of Study board
- Questions?