THE FLIPPED CLASSROOM

This guide answers five important questions about the pedagogical model of the flipped classroom. It identifies what the model looks like, its theoretical framework and the reported benefits of implementing the flipped classroom.

What is the flipped classroom?

The flipped classroom is a pedagogical model that inverts traditional teaching methods so that typical lecture and homework elements of a course are reversed. This means that instruction is delivered online outside of class and work that students would normally do outside of class is moved into the classroom.

“Flipping the classroom means that students gain first exposure to new material outside of class, usually via reading or lecture videos, and then use class time to do the harder work of assimilating that knowledge, perhaps through problem-solving, discussion, or debates” (UOW Technology-Enriched Learning Strategy 2015-2019, p. 23)

What theories support the flipped classroom?

A primary theory that underpins flipped classroom pedagogy is “active learning” which Bonwell and Eison (1991) refer to as “anything that involves students in doing things and thinking about the things they are doing” (p. 2). Further, Bloom’s Taxonomy (1956) of learning behaviours (particularly the higher-order cognitive functions) can be seen as the goals of active learning.

In support of active learning, Bransford, Brown and Cocking (2000) explain that for deep learning to occur students must:

(i) first develop a strong foundation of knowledge based on fact,
(ii) understand how that knowledge sits within a specific concept/framework; and
(iii) then retrieve and apply that knowledge in a range of contexts.

The flipped classroom supports this type of learning as it exposes students to foundational concepts through online readings, videos and activities prior to class, and ensures that class time enables students the opportunity to actively exercise higher cognitive functions. Moreover, the formative feedback provided during flipped class time helps instructors clarify knowledge and misconceptions so as to ensure students are able to “organise their new knowledge in a way that is more accessible for future use” (Brame, 2013, p. 3).
How do I flip my classroom?

There are many different ways to flip the classroom. A video lecture is often seen as a “key ingredient” (Educause, 2012). The most common way to flip traditional lectures is to prerecord short (10-15 minute) videos on key concepts or ideas (for students to watch online) and then use class time to actively explore and apply these concepts to real world situations in an interactive way.

What happens outside of class?
The goal of out-of-class preparation is to expose students to new material that encourages the development of foundational knowledge (e.g. principles, facts, terms etc.) and comprehension necessary for engagement in higher cognitive tasks and application of knowledge in class. Before class students should be engaging in a combination of the following tasks.

<table>
<thead>
<tr>
<th>Student Roles</th>
<th>Instructor Roles</th>
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<tbody>
<tr>
<td>Watching videos (e.g. mini online lectures) and reading e-readings</td>
<td>Assigning students e-readings &amp; research tasks</td>
</tr>
<tr>
<td>Engaging in self-paced activities (e.g. Moodle quizzes)</td>
<td>Uploading short and engaging digital media e.g. lecture videos, narrated slideshows, PowerPoint presentations, screencasts, podcasts etc.</td>
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<tr>
<td>Preparing for tasks to take place in class</td>
<td>Creating online activities related to readings and media e.g. Moodle quizzes, short answer questions, blog posts, mini assignments, journal entries, pre-class reading assignments, worksheets (for in-class feedback)</td>
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<tr>
<td>Producing work for feedback in class</td>
<td>Designing worksheets, questionnaires or mini projects that prepare students for class debates, enable students to receive formative feedback during class, or that students can continue working on at a deeper level during class</td>
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<tr>
<td>Identifying questions to ask teacher during next class</td>
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<tr>
<td>Completing worksheets (randomly collected for grading during class)</td>
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<tr>
<td>Working on mini assignments</td>
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What happens during class?
The goal of class time is to focus on the processing part of learning/assimilating knowledge (synthesising, analysing, problem-solving etc.) to deepen understandings, enhance skills and enable application of knowledge. This is time for “heads on” and “hands-on” activities that “yield immediate discussion with peers and/or instructors” (Hake, 1998, p. 65). Examples of activities that could take place during class include the following:

- Data analysis & synthesis activities
- Class debates
- Games & role playing
- Mini lectures in response to student questions
- Problem-solving tasks (regarding the application of knowledge to real world contexts)
- Case studies & labs
- Small group discussions/brainstorming
- Think-Pair-Share
- Evaluations/reviews
- Simulations & experiments
- Conceptual questions via “clickers”/polls that enable anonymous answers by all students and immediate sharing of data with class

Tips for designing pre-class content:
To ensure active engagement in class, video content should be matched with a small task. Collaborative tasks are excellent as they both ensure active learning and help build class cohesion.

Pre-class content does not necessarily have to be done through video, although research shows well-produced video has a big impact and students and teachers express a preference for videos over reading material for class preparation (Herreis & Schiller, 2013)

Pre-class content does not need to be traditional lecture material, for example, flipped classrooms can be usefully combined with case study approaches. The essential part of good flipped learning design is aligning the online and face-to-face content and orienting them both to enable active applied learning.
What are the benefits of flipping the classroom?

Research has revealed a number of positive results for implementing flipped classroom pedagogy:

- Increased student engagement and motivation (Brame, 2013; DesLauriers, Schelew & Wieman, 2011)
- Higher learning gains than traditional instructional methods (Crouch & Mazur, 2001; Hake, 1998)
- Supports metacognition (Bransford, Brown & Cocking, 2000)
- Enables formative and richer feedback
- Enables immediate clarification of misconceptions (Bransford, Brown & Cocking, 2000)
- Prepares students for assessments
- Facilitates greater peer/instructor interaction
- Opportunity for use of higher cognitive functions in class
- Feedback loop enables just-in-time teaching
- Richer in-class discussions (Brame, 2013)
- Reduced need for written/formative feedback outside of class (Walvoord & Anderson, 1998)
- Enables students to move at their own pace (Fulton, 2012)
- Teachers gain insight into challenges faced by students and individual learning styles in class (Fulton, 2012)
- Offers flexible learning options as students can access online material anywhere and anytime
- Class-time can be customised to better meet student needs
- Students can watch, pause, rewind and fast-forward online lecture materials as needed
- Meets students’ technology needs and supports how 21st century learners engage with content
- Allows for more time to be spent on authentic tasks that enable real-world application and research
- Enables more time for students to access specialised resources/equipment during class
- Promotes active learning and encourages self-directed and student-centred learning
- Supports accessibility standards (videos can contain captions) and language needs for students from NESB

References


