



'Flip the Classroom'

Simon Li

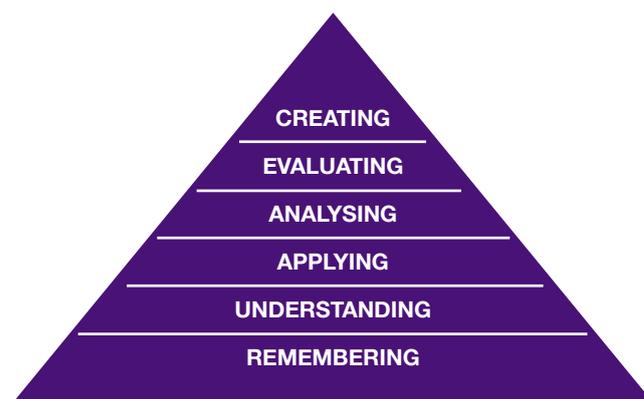
Given the huge expansion in medical knowledge it is both practical and expedient to make better use of students' time with aids for effective learning, rather than by increasing the length of time it takes to earn a medical degree. Embracing a 'flipped classroom' approach is a way to free-up classroom time to promote active learning through opportunities such as case-based and team-based exercises.

What is a 'flipped' approach?

In the traditional model of teaching, the lower levels of Bloom's revised taxonomy (2001), (Figure 1), gaining knowledge and comprehension occur via the classroom based lecture. Higher forms of cognitive work such as application, analysis and synthesis are frequently achieved through periods of individual study.

Figure 1. (right)

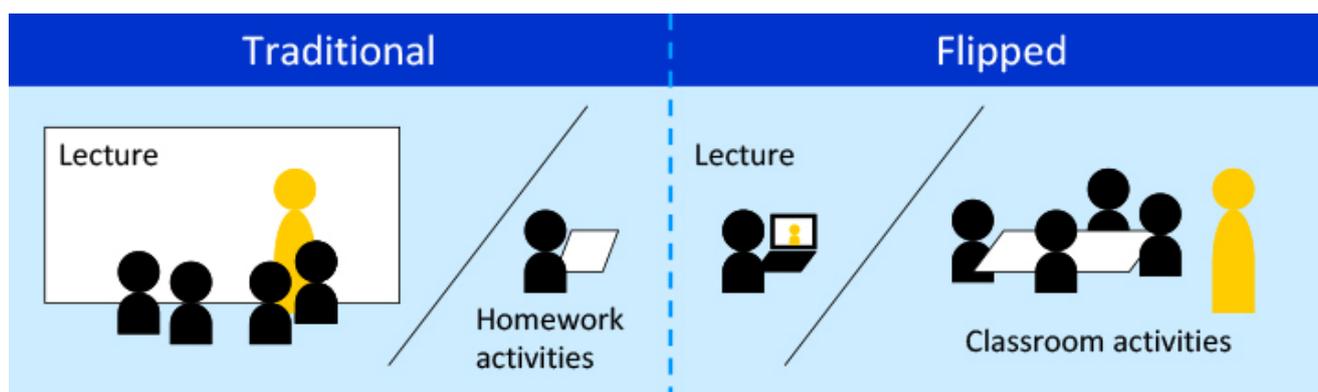
Bloom's taxonomy (revised)



The 'flipped classroom' (see Figure 2), is a pedagogical concept in which the 'first-exposure' to knowledge occurs outside of the classroom; often by providing students with prior reading and pre-recorded media. This is followed by the assimilation of knowledge in a classroom setting with the support of peers and the instructor.

Figure 2. (below)

Traditional versus flipped approach



Benefits of this approach

Student empowerment

The use of video recording and other such media puts the lecture under the control of the students who are able to watch, pause, rewind and fast-forward as needed. This feature of pre-recorded media is of particular value for those with disabilities such as hearing impairments such that captions can be provided or to those where English is not their first language and so lectures can be viewed more than once. It also accommodates for different learning styles.

Collaboration between students

Moving away from the transmission of knowledge to a facilitation role enables the teacher to help students with the application of concepts. It allows instructors to more readily identify and correct errors in thinking if they are exhibited in group activities. In addition, activities used in the classroom, can promote collaboration and encourage social interaction between students so that they can learn from one another and foster peer support.

Challenges of this approach

Resource utilisation

There is an initial need to invest both time and resources to develop the lecture materials, as well as investment in the technology to both record lectures and host them online via a web page accessible for students. Additionally there is extra work load on the educator to create these lectures, or other pre-class material as well as developing classroom activities that can promote active learning in students.

Loss of face-to-face lectures

Students may feel uncomfortable with, or unsettled by the loss of face-to-face lectures and subsequently may under appreciate the value of the activities held within the class. Indeed some students may skip classes that focus on the hands-on portion of the model missing the true value of the flip. Indeed there is no way to guarantee that students will engage with material prior to their class. The aim should be to promote this approach as an adjunct to, rather than a substitute for, more traditional teaching formats and to ensure that the sessions have coherence and clearly defined learning outcomes.

Theoretical framework

Educational technology and activity theory are the two key components of the flipped classroom influencing the student's learning environment in different ways (see Figure 3).

How to flip the classroom

1. **Create a video:** The instructor still does what they do best which is introducing and explaining concepts. The difference being that they are doing it via a recording done using either a camera or presentation software with a voiceover.
2. **Notify and share the material with the students:** Students watch the video at home before the scheduled class. This ensures that students come to class prepared with knowledge to underpin their learning in the next stage.
3. **Use class time wisely:** Because students have watched the video content at home, time in class can be spent applying their learned knowledge to engage and collaborate. The instructor is freed up to craft active learning experiences for students and this shifts the emphasis away from a 'sit and listen' knowledge transmission approach to that of an actively engaged 'do and learn' model.

Tools of flipping

A comprehensive list of tools an educator could use to flip the classroom is impossible but the list below highlights a few resources that are common in flipped classrooms.

Camtasia

A web-based screen recording and video-editing software.

Moodle

A useful programme to serve as a platform

YouTube

Ideal for first-time 'flippers', YouTube offers a platform to source material for students to watch, as well as to share new material.

Edmodo

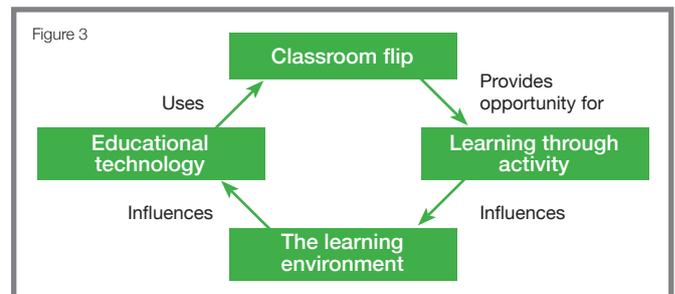
This classroom management platform allows students to connect and collaborate within a safe environment. There are useful tools to allow students to continue discussions online and run polls.

Screencast

This web tool allows you to make your own screencasts to which you are given the full license to.

Poll Everywhere

Instant audience feedback enabling the user to gather live responses using text, twitter or web.



Further Information

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