



# Flipped learning

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### Sub Theme

[Flipped learning](#)

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## What is flipped learning?

Flipped learning is a pedagogical approach in which the conventional notion of classroom-based learning is inverted, so that students are introduced to the learning material before class, with classroom time then being used to deepen understanding through discussion with peers and problem-solving activities facilitated by teachers.

## Where did flipped learning come from?

The phrase 'flipped learning' came into general use in the early mid-2000s when it was popularised by chemistry teachers Jon Bergman and Aaron Sams (Bergmann and Sams 2012) and the founder of the Khan Academy, Salman Khan (TED 2011). However the concept of flipped learning goes back much further than this.

In the 1990s, Harvard Professor Eric Mazur developed a model of 'peer instruction' in which he provided material for students to prepare and reflect on before class and then used class time to encourage deeper cognitive thinking via peer interaction and instructor challenge. He called this "just in time teaching" (Crouch and Mazur 2001).

This model was later expanded to include technological elements. At the International Conference on College Teaching and Learning in 2000 a presentation was delivered on 'The Classroom Flip: Using Web Course Management Tools to Become a Guide by the Side' (Baker 2000). It developed the 'flip' concept and emphasized the role of Learning Management Systems in delivering materials to students before class. Significantly, the role of the teacher was articulated as facilitator and coach or 'guide on the side'. Subsequent research focused on the notion of 'inverting the classroom' as a means of providing an inclusive learning environment in which personalized coaching and mentoring was the norm (Lage, Platt and Treglia 2000).

Fast forward to the present and the dramatic growth of online content creation, collaboration and distribution tools provide practitioners with an accessible toolkit for delivering flipped learning. Video creation (e.g. Screenr and Webinaria) and distribution tools (e.g. Youtube and Vimeo) provide the opportunity to create flipped content with ease. Alternatively, there is a wealth of pre-existing media available for reuse (e.g. iTunesU, Khan Academy, and Open Yale Courses). While technology is not a prerequisite (flipped text based content is just as valuable as video content), there is no doubt that the intersection of web 2.0 technology and learning theory has enabled flipped learning to become a valuable addition to the spectrum of blended learning.

## How does flipped learning work?

The University of Texas Austin has created a short animation to explain how the flipped classroom works.



What is a flipped class? from [TEXAS Learning Sciences](#) on [Vimeo](#).

See: <https://vimeo.com/70893101>

In traditional learning, students acquire knowledge in a classroom context and are then sent away to synthesise, analyse and evaluate this after the class. In the flipped classroom, students acquire knowledge before the class and use classroom time to practice and apply concepts and ideas through interaction with peers and teachers. After the class, students reflect upon the feedback they have received and use this to further their learning.

## Sector Snapshot

### Where is flipped learning currently being used and how?

Flipped learning has not been rigorously evaluated as a pedagogy in higher education (HE), but case studies are emerging, in ever greater numbers, which document measurable improvements in student and teacher motivation, increased attendance in class, and better grades, as a result of using the flipped approach (Hamdan *et al.* 2013).

At Vanderbilt University in the US, measurable improvements in test scores were recorded when a section of a large enrolment physics class was flipped in 2011 (DesLauriers, Schelew and Wieman 2011). In 2012-13, the University of Queensland, Australia successfully implemented large-scale flipped learning to over 1,000 students across a range of disciplines. The University is now leading a global partnership of universities in an initiative to better understand how engineering education might be redesigned using the flipped learning model and how the spread and adoption of best practice in flipped learning could be accelerated (University of Queensland 2014).

In the UK, the University of Manchester's Schools of Social Sciences and Computer Science have experimented with flipping the tutorial, by providing a video to watch before the tutorial and using tutorial time for small group work, which includes problem-based learning activities. Evaluation of the system suggests general improvement in student engagement and highlights the logistical challenges in implementing small group working within large cohorts (University of Manchester 2014).

Universities and schools in the US were early adopters of the flipped model and the concept has gained traction in the UK. Indeed horizon scanning reports forecast flipped learning as an innovative pedagogy with the potential for high impact in the HE sector in the medium term (2-5 years) (Sharples *et al.* 2014).

### What are the potential benefits of flipped learning?

By providing students with the material to gain a basic level of knowledge and understanding before class, classroom time can be used to deepen learning and develop higher-level cognitive skills. One of the core objectives of flipped learning is to move students away from passive learning and towards active learning where students engage in collaborative activity, peer learning and problem-based learning. Within this context, the role of the teacher shifts towards that of facilitator and coach by

empowering students to take control of their own learning. The use of technology further enriches the flipped learning process and promotes skills that are essential for 21st-century learning (e.g. digital literacies).

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## Getting Started

### How do I get started with flipped learning?

The new HEA knowledge hub is a good place to start and offers various resources linked to flipped learning/classroom and related content. You can also visit the HEAtoZ where you can find related terms and topics that are continually updated to provide new, relevant and innovative content.

The University of Texas at Austin 'Quick Start Guide' to flipping your class is a practical place to start.

Figure out where and when to flip your class;

Look out for classroom based activities to enhance students learning;

Identify engaging content for exposure before class;

Prepare students for the flipped approach by setting expectations.

See: <http://ctl.utexas.edu/sites/default/files/utflipquickstartguide112114.pdf>

Another useful reference is the 'Four Pillars of Flip', which provides a framework for thinking about some of the wider issues, including the role of the learning environment and the teacher.

Flexible environment – space, mode of delivery and timelines for learning;

Learning culture – a learner centred approach to encourage deep learning;

Intentional content – that maximises learning;

Professional educator – who guides learning and continuously improves practice.

See: [http://www.flippedlearning.org/cms/lib07/VA01923112/Centricity/Domain/46/FLIP\\_handout\\_FNL\\_Web.pdf](http://www.flippedlearning.org/cms/lib07/VA01923112/Centricity/Domain/46/FLIP_handout_FNL_Web.pdf)

### What should I expect if I try this approach?

This very honest account from Professor Jennifer Ebbeler, on designing and implementing flipped learning at the University of Texas at Austin, highlights both the challenges and the rewards of the approach:

See: <http://chronicle.com/article/Introduction-to-Ancient/140475/>

Students who expect the conventional mode of lecture-based teaching might find the sudden implementation of a new model disorientating. The importance of setting expectations and priming students for active student-centred learning, in which they will be expected to manage their own learning in a more proactive way, is crucial. In addition, some teachers may find that the shift in their role from presenter to facilitator is challenging and requires the development of new competencies.

As Professor Ebbeler notes: "I have emerged from this experience a proponent of the flipped-class model—but also a careful and candid one." (*The Chronicle of Higher Education* 2013).

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## Next Steps

## Where can I learn more about flipped learning?

The Flipped Learning Network has a wealth of information and resources on the flipped approach and an active social media presence (follow @flippedlearning)

See: <http://flippedclassroom.org/>

Listen to, and join, the flipped learning conversation by following these hashtags on Twitter:

#flipcon15

#flippedclassroom

#flipclass

## What other topics might I find interesting?

- [Blended learning](#)
- [Deep learning](#)
- [Digital literacy](#)

## How else can the HEA support my professional development?

The UKPSF provides the framework for recording aspects of professional practice where Maker Culture could be included. Find out more about UKPSF.

Come to a HEA event to share your experiences with your peers – See <https://www.heacademy.ac.uk/events-conferences>

In your social media share your experiences of Maker Culture – you can tweet about it and include the #HEA to share it with those following the tag, or perhaps you can submit a guest blog posting through us. See <https://www.heacademy.ac.uk/blog>

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## Talk and Share

#flipcon15 #flippedclassroom #flipclass

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