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# The Flipped Classroom

| Content | Theoretical Knowledge | Skills | Competencies |
|---|---|---|---|
| *- Definition of flipped classroom*<br><br>*- Benefits of a flipped classroom*<br><br>*- Important things to consider*<br><br>*- The four pillars of F-L-I-P*<br><br>*- Different flipped classroom models*<br><br>*- Flipped Classroom Implementation*<br><br>*- Flipped Classroom history (bonus)* | *- Understanding the flipped classroom methodology*<br><br>*- Observed Positive Results Applying the Flipped Classroom;*<br><br>*- Possible limits and how to overcome them;*<br><br>*- Distinguishing between different classroom models*<br><br>*- Tips for trainers to use the Flipped Classroom strategy.*<br><br>*- Flipped classroom invention*<br><br>*- Flipped classroom compared to other Instructional approaches* | *- Self-regulated learning*<br><br>*- Collaborative learning*<br><br>*- Digital learning*<br><br>*- Learning by doing*<br><br>*- Innovative learning material sequencing* | *- To learn individually at one's own pace;*<br><br>*- To help other learners overcome any difficulties through peer teaching;*<br><br>*- Self-management and organisation skills* |

# Introduction

One of the expected outcomes of education is permanent learning. To this end, different teaching methods are used in classrooms, but other learning environments are also tested. In particular, among the teaching methods, student-centred learning and individual learning come to the fore. Specifically, following the development of internet technologies, learning environments have shifted from face-to-face to virtual and distance education. One distance learning technique is the so-called Flipped Classroom.

The following module will develop the topic of the "Flipped Classroom", discovering what the flipped classroom is, what are the four pillars of F-L-I-P, when, where and why was the flipped classroom invented, what are its benefits and disadvantages, how can it be best used and how it compares to other instructional approaches.

# Topic 1 | Flipped Classroom Definition

The Flipped Classroom, also known as the “inverted classroom”, is a blended learning model in which traditional ideas about classroom activities and homework are reversed, or "flipped." In this model, instructors have students interact with new material for homework first. They then use class time to discuss the new information and put those ideas into practice. True flipped learning is about opening up class time and transforming it into a hands-on, differentiated, and even personalized learning experience.

The flipped classroom approach focuses on ensuring the students have a deeper learning experience with the help of the teachers, who guide them through the material. Students learn their lessons at home and do their homework at school. This allows them to understand the material better because at home they have access to almost any resources they might need. Then, at school, they can discuss everything they didn’t understand, ask questions and ensure they assimilated the whole information.

In the flipped classroom approach, it's what happens in the classroom that matters. True flipped learning turns classroom time into a more individualized experience. Instead of an instructor addressing all students as a group, learners move at their own pace or in small groups to apply their knowledge in hands-on ways; this allows for a more differentiated experience overall.

# Topic 2 | Flipped Classroom Benefits

## 1. Students have more control

There are many advantages of a flipped classroom. In a flipped classroom, students can have increased input and control over their own learning. By providing short lectures to look at home, students are given the freedom to learn at their own pace. Students may pause or rewind the lessons, write down questions they may have, and discuss them with their teachers and peers in class. This also allows students who have difficulties understanding certain concepts to take their time reviewing the material without being left behind, and receive immediate assistance from teachers and classmates, when needed.

### 2. It promotes student-centred learning and collaboration

Flipped classrooms allow the class more time to master skills through collaborative projects and discussions. This encourages students to teach and learn concepts from each other with the guidance of their teachers. By allowing students to partake in their own learning, they can own the knowledge they achieve, which in return, builds confidence. Furthermore, teachers are given the ability to identify errors in thinking and/or concept application and are more available for one-on-one interactions.

### 3. Lessons and content are more accessible (provided there is tech access)

By making video lectures available at all times online, students who miss their classes due to illness and other emergencies, can catch up quickly.

### 4. It can be more efficient

Done properly, in a flipped classroom, students have more academic practice. Since flipped classrooms limit the "outside of classroom" workload to watching an online lecture that is usually less than 10 minutes long, it gives students and teachers more time to focus on their interests and hobbies in their free time.

### 5. Students have the opportunity to experience multiple learning modalities

The flipped classroom is an innovative teaching model that supports diversity in learning and allows students additional time for reviewing materials. Students can also learn by working with peers to complete simple or complex research tasks, solve problems, create and demonstrate their own solutions.

## Topic 3 | Important Things to Consider

Despite the many advantages of flipped classroom strategy, there are some limits of the approach, which should be taken into consideration while applying the strategy in the classrooms:

### 1. It can create or exacerbate a digital divide

One of the most prominent issues is the necessity for students to have access to a computer and the Internet to view the lectures. This is particularly hard on students from low-income districts who already have limited access to resources.

### 2. It relies on preparation and trust

There is also the concern that since flipped classrooms are dependent on student participation, one must trust students to watch the lectures at home. Unfortunately, there is no way to guarantee students will oblige or cooperate with the flipped model.

### 3. There is significant work on the front-end

Additionally, there is a concern that implementing a flipped classroom adds an extra workload on teachers, as there are several elements that must be integrated carefully to allow the class to flourish. Responsibilities include taping and uploading condensed lectures, which takes time and skill and introducing activities in the classroom that will enhance the subject matter as well as motivate students to participate and prepare for class. Though teachers can gradually integrate flipped elements into their classrooms, it will still require additional time and effort from teachers.

### 4. Not naturally a test-prep form of learning

Flipped classrooms do not "teach to the test." Flipped classrooms are not centered around improving standardized test scores. However, teachers and students are still required to spend a sizable portion of their time preparing for state-mandated testing, which in turn may disrupt the flipped classroom process.

### 5. Time in front of screens instead of people and places is increased

Some believe that if every teacher starts flipping their classrooms, students will spend hours in front of a computer watching the lectures. One may argue that this can cause serious problems to students' learning processes, since not everyone may be adept at learning through a computer.

### 6. Some students with special needs may need extra support at home–support that might not always be available

Special needs students may not have the ability and needed level of independence to benefit from the flipped classroom approach. Since those individuals already need extra help in traditional classrooms, even more help might be needed if flipped classroom strategy is to be implemented.

# Topic 4 | The Four Pillars of F-L-I-P

## F: Flexible Learning Environment

Educators create flexible spaces where students choose when and where they learn. Additionally, educators who flip their classes are flexible in their expectations of student timelines for learning and their students' assessments.

## L: Learning Culture

Instead of traditional teacher-centred learning, the flipped classroom puts students at the centre of the lesson and learning process. Students guide the pace and style of learning, and instructors play the role of the "guide on the side." In a flipped learning model, in-class time is dedicated to exploring topics in greater depth and creating rich learning opportunities. As a result, students are actively involved in knowledge construction as they participate in and evaluate their learning in a personally meaningful manner.

## I: Intentional Content

Instructors who embrace the flipped learning model are always looking for ways to maximize their classroom time so that students are actively engaged in learning and hands-on practice. This approach requires prioritizing lessons that work in such a model and figuring out ways to encourage learners to work independently.

## P: Professional Educator

The flipped model requires instructors to constantly monitor their students and identify who needs help and why. Instructors need to be responsive and flexible, and they must understand that this highly active style of teaching takes great pedagogical skill. Despite being less visible, instructors need to be at the top of their game to nurture students in a flipped classroom.

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# Topic 5 | Different Flipped Classroom Models

There are different types of flipped-classroom models that can be applied to the learning process depending on teachers' and students' needs:

## 1. The standard inverted classroom

Students are assigned to watch relevant videos and read relevant materials for the next day's class at home - that's their "homework". In class, they practice what they have learned and the teacher resolves any questions relating to the topic and gives additional attention to "one-on-one" time. The benefits from this method are that the teachers have more time to practice the knowledge with the students instead of just lecturing them.

## 2. The discussion-oriented flipped classroom

The students are assigned to watch any video content related to the next class' topic, for example, TED Talks, YouTube, or something else that the teacher sends them. The lesson is then in the form of discussion and exploration of the subject. This method is very appropriate and effective for subjects where context is important (for example English, Art, History, etc.). Discussing the new topics allows the teacher to understand how each student thinks and interprets the given information.

## 3. The demonstration-focused flipped classroom

In this model, the teacher uses screen recording software to demonstrate an activity, and in doing so to allow students to follow along at their own pace. They can rewind and rewatch the video. This method is beneficial in subjects like Maths, Physics, Chemistry – subjects that require memorizing and repeating activities. It is easier for students to remember a process when they see a demonstration of it, instead of just reading about it. It also allows the teacher to be creative when presenting information.

## 4. The faux-flipped classroom


This model is suitable for younger students. They watch the educational video in class, which gives them the opportunity to review the materials at their own pace. At the same time, the teacher can move from student to student and offer whatever individual support each young learner may require.

## 5. The group-based flipped classroom

All the resources for the class are shared beforehand so that the students can review them at home. In class, they sit into groups to work on an assignment. They help each other find the correct answers, learn from one another, and learn how to explain information to other individuals. This particular method encourages teamwork and improves the soft skills of the students.

## 6. The virtual flipped classroom

For many college and university students this method is the most likely to be used. The professors share lecture videos for students to view and then assign and collect work via online learning management systems. It is only required that the students attend office hours or other meetings for a "one-on-one" session with the professor. This method saves the teachers a lot of time and through the individual sessions, they can more effectively help the individuals.

## 7. Flipping the teacher

This method is engaging and exciting because the students are the ones making or sharing the video content. They are assigned to record practice role-play activities to show competency or are asked to film themselves presenting a new subject or skill. With this technique, the students are more involved than ever and the teachers can find some new topics for future classes and understand what their students are interested in, which can help them organize the lessons better.

# Topic 6 | Flipped Classroom Implementation

## 1. Determine your technology

Since flipped teaching relies so heavily on technology to create and share videos of lectures, choosing the technology that can best help you film, edit, and share your videos is a crucial first step. You'll also need to choose a hosting service and determine how your students will access all of your content. A reliable platform for exchanging different types of lectures and content could be Google Drive. You can upload the videos and documents to the site and it also allows students to add their own documents in a shared folder, which can be seen and edited by all users.

## 2. Create your videos and content

When it's time to film, keep it short and sweet. You'll be pleasantly surprised to learn that what used to take 15 minutes to cover in a lecture can usually fit into a five-minute video since you won't have to worry about classroom management. Don't be afraid to be entertaining! Instead of just sharing an article or PDF format of a textbook about a certain topic via mail, try to film yourself while explaining the subject. Use different tools to maintain the students' focus and motivation (for example write the important points on a piece of paper or a board, use actual objects linked to the subject, etc.). A virtual image of you as a teacher and verbal explanation of a topic will be more interesting for students and they are more likely to be engaged in the subject itself.

## 3. Be transparent with students

Before you begin, explain what flipped learning is and why you are doing it. Making a major change in your classroom culture is hard work, and flipping the mindset is not easy. Be prepared to address concerns and to revisit the "how" and the "why" often. A strong way to introduce this new learning strategy to your students would be to thoroughly explain to them the flipped learning techniques. In doing so they will be able to get familiar with the approach, its aims, advantages, and will probably be more likely to accept the changes in the teaching and learning process. For this purpose, you could prepare a short presentation with the main characteristics regarding the flipped classroom strategy and try to explain what the teaching and learning process will look like once the approach is applied.

## 4. Make your students accountable

Don't forget that your flipped learning model depends on student participation. If they're not keeping up with the at-home learning, your whole class will grind to a halt because students won't be prepared to engage with your hands-on activities. Be sure to devise a system that tracks and holds students accountable for watching your videos. To check if students are

actually watching your video lectures, you could prepare short revision tests after each module and gain insight into their participation and understanding of a topic.

### 5. Make it practical

One of the four general types of knowledge described in the revised Bloom's Taxonomy is *procedural knowledge* - this knowledge describes *how* to do something. If utilized appropriately, the flipped classroom may support the development of procedural knowledge. For example, a flipped classroom video lecture about how to solve a quadratic equation in which an instructor describes and models how to solve this type of problem would be a good use of the strategy.

Complex procedural knowledge can also be taught utilizing the flipped classroom strategy; however, scaffolding and chunking of content will be very important. Because of that, you have to ensure that videos are short and concise. Also, since we are talking about procedures and processes, you want to make sure that all steps are presented clearly and are easy to follow.

Although procedural knowledge is arguably the best type of knowledge to teach using the flipped classroom strategy, the other three types of knowledge: factual (knowledge describing the basic and essential elements a person must know), conceptual (knowledge of the relationship between classifications and categories), and metacognitive knowledge (knowledge about one's own cognition) can also be taught using it. Nevertheless, it is important to underscore that you may need additional time and resources for that.

# Topic 7 | Flipped Classroom History

Militsa Nechkina, a member of the USSR Academy of Pedagogical Sciences, first proposed the flipped classroom model in 1984. In the 1980s and 1990s, teachers in Russia tried this instructional strategy. Perhaps the most recognizable contributor to the flipped classroom is Salman Khan. In 2004, Khan began recording videos at the request of a younger cousin he was tutoring because she felt that recorded lessons would let her skip segments she had mastered and replay parts that were troubling her. Salman Khan then founded Khan Academy based on this model. For some, Khan Academy has become synonymous with the flipped classroom.

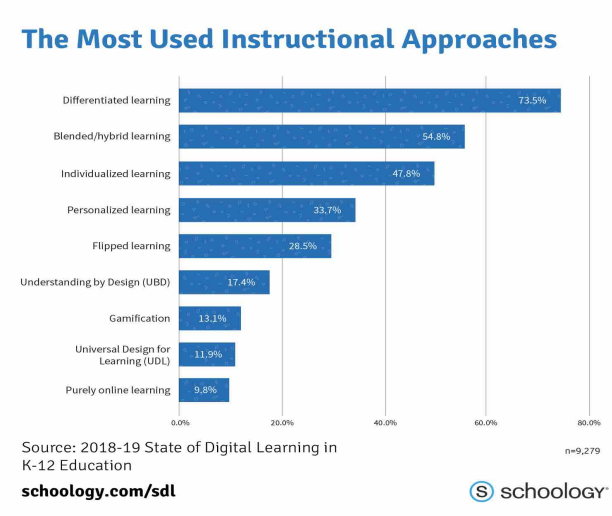
In practice, it all began in Colorado with two teachers, Jonathan Bergman and Aaron Sams, who realized that there was no way to get materials to students who were out of school sick. In 2007 they began recording their lessons and lectures and turned them into videos. They then began to use it in their classrooms, calling it “pre-broadcasting.”

In 2011, educators in Michigan's Clintondale High School flipped every classroom. High school’s principal, Greg Green, led an effort to help teachers develop plans for flipped

classrooms, and worked with social studies teacher, Andy Scheel, who ran two classes with identical material and assignments, one flipped and one conventional. The flipped class had many students who had already failed the class—some of them multiple times. After 20 weeks, students in the flipped classroom were outperforming students in the traditional classrooms. Further, no students in the flipped classrooms scored lower than a C+, while the previous semester 13 percent of them had failed.

On June 27, 2016, Jonathan Bergmann, one of the originators of flipped learning, launched the Flipped Learning Global Initiative, led by Errol St.Clair Smith. On January 26, 2018, the Flipped Learning Global Initiative introduced its International Faculty, created to deliver a consistent standard of training and ongoing support to schools and school systems around the world. Today, MEF University, a non-profit private university located in Istanbul, Turkey, claims to be the first university in the world that has adopted the "flipped classroom" educational model university-wide.

## Flipped Classroom Data and How it Compares to Other Instructional Approaches




A 2018-2019 Global State of Digital Learning research study revealed some interesting insights about instructional approaches. It was taken by 9,279 education professionals with various roles and different districts from all across the country. When we look at instructional approaches most frequently used, the top ones are differentiated instruction (73,5%), blended learning (54,8%), and individualized learning (47.8%). And while flipped learning, personalized learning, and gamification command the most press, they aren't being practised as much as one might think. In many ways, this makes a lot of sense. These approaches require more time and resources than many of the others

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# Test and Evaluation

## QUIZ

| | |
|---|---|
| Flipped classroom is a learning model, where students and a teacher interact with the new material together, in the classroom. | T/F |
| Flipped classroom and flipped learning turn classroom time into a more individualized experience. | T/F |
| The four pillars of F-L-I-P stand for the flexible learning environment, learning culture, intentional content and professional educator. | T/F |
| Professional educator in the flipped classroom has to be responsive and flexible and must understand that this highly active style of teaching takes greater pedagogical skill. | T/F |
| The discussion-oriented flipped classroom is mostly used for subjects like Maths , Physics and Chemistry, where the lesson is in the form of discussion and exploration of the subject. | T/F |
| One of the benefits of the flipped classroom is that lessons and content are more accessible. | T/F |
| Another benefit of the flipped classroom approach is that it relies on preparation and trust. | T/F |
| To ensure the benefits of the flipped classroom approach, the teacher has to make sure students are accountable. | T/F |
| Flipped classroom approach will probably work best for teaching knowledge that is procedural, although it can be utilized for other kinds of knowledge (factual, conceptual, metacognitive) as well. | T/F |
| Some of the most common and used instructional approaches in the classroom are differentiated instruction, blended learning and individualized learning. | T/F |

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## SELF-ASSESSMENT QUESTIONNAIRE

1. After learning about the flipped classroom approach, have you recognized any of its mentioned components and strategies in your current teaching technique? If yes, which are those strategies?

2. Which are, in your opinion, 2 benefits of the flipped classroom approach that could stimulate the biggest change in the current traditional classrooms?

3. Which of the described flipped classroom models appeals to you the most and why?

4. Do you find the possibility of implementing the flipped classroom approach in your classroom difficult? If yes, why? Which step of the implementation could cause you the most trouble?

5. After getting familiar with the theory and accompanying activities, which flipped classroom activity appeals to you the most?

## Correct answers to the quiz:

1) F
2) T
3) T
4) T
5) F
6) T
7) F
8) T
9) T
10) T

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