UNIVERSITY OF SILESIA IN KATOWICE

SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

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Guidance

on organisation and assignment planning FC

IO2 Teachers Training Materials AC Project

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Teachers Training Materials – Guidance

What is Flipped classroom approach?

Students' first exposure to new material in the course, and their steps in basic learning of that material, will take place outside of synchronous meetings (wherever and however they are conducted) and will be individual because students can take advantage of unstructured time to interact with the material at their own pace, and because basic cognitive tasks do not require as much intensive expert assistance as higher-level tasks. Having moved the first-person experience out of the classroom (real or virtual), the entire course encounter is now open to higher-level questions and tasks-the kinds of complex, challenging work that students must do in a group space during classes to assimilate the information they have seen and that will benefit the most from social interaction with peers and close guidance from an expert (teacher).

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General stages of organisation part 1

- Select the topic – requires conceptual thinking;
- Prepare and locate resources for pre-reading, make them available to all students outside the class;
- Make the students accountable for their learning, provide the students motivation to learn;
- Provide environment in class for appilcation of the concepts; encourage deeper learning while maintaining enthusiasm.

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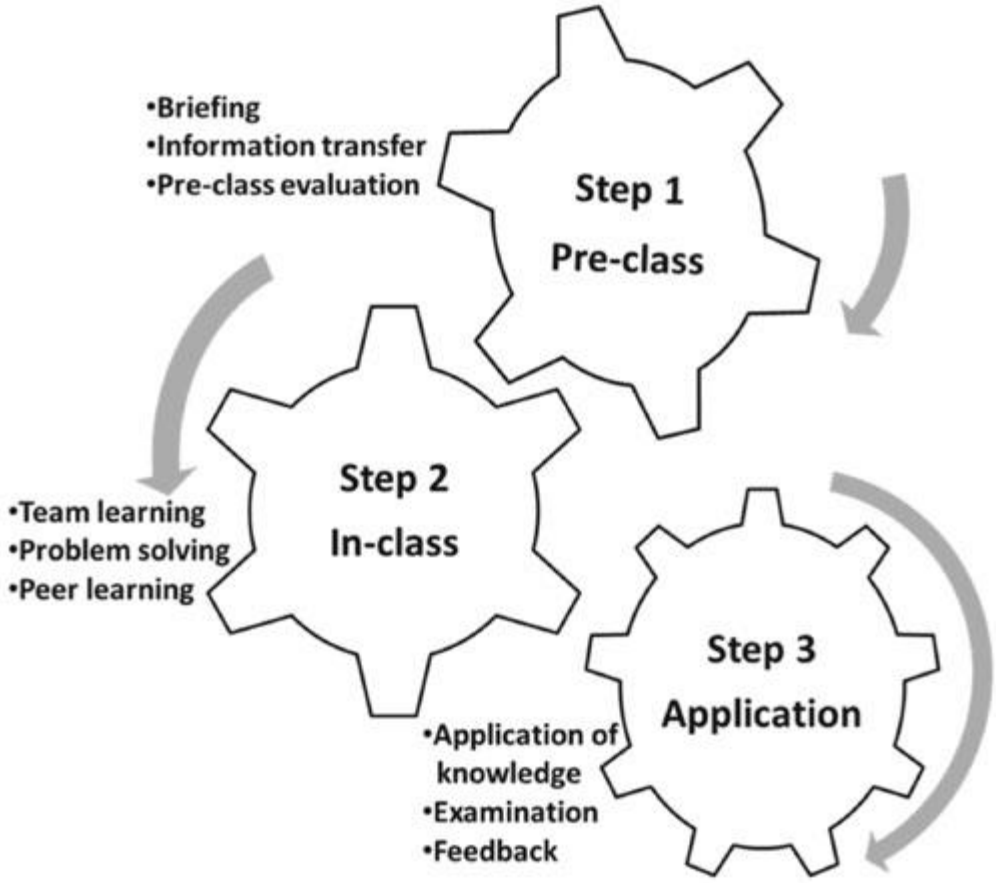
General stages of organisation part 2



Source: https://www.indianpediatrics.net/june2018/june-507-512.htm

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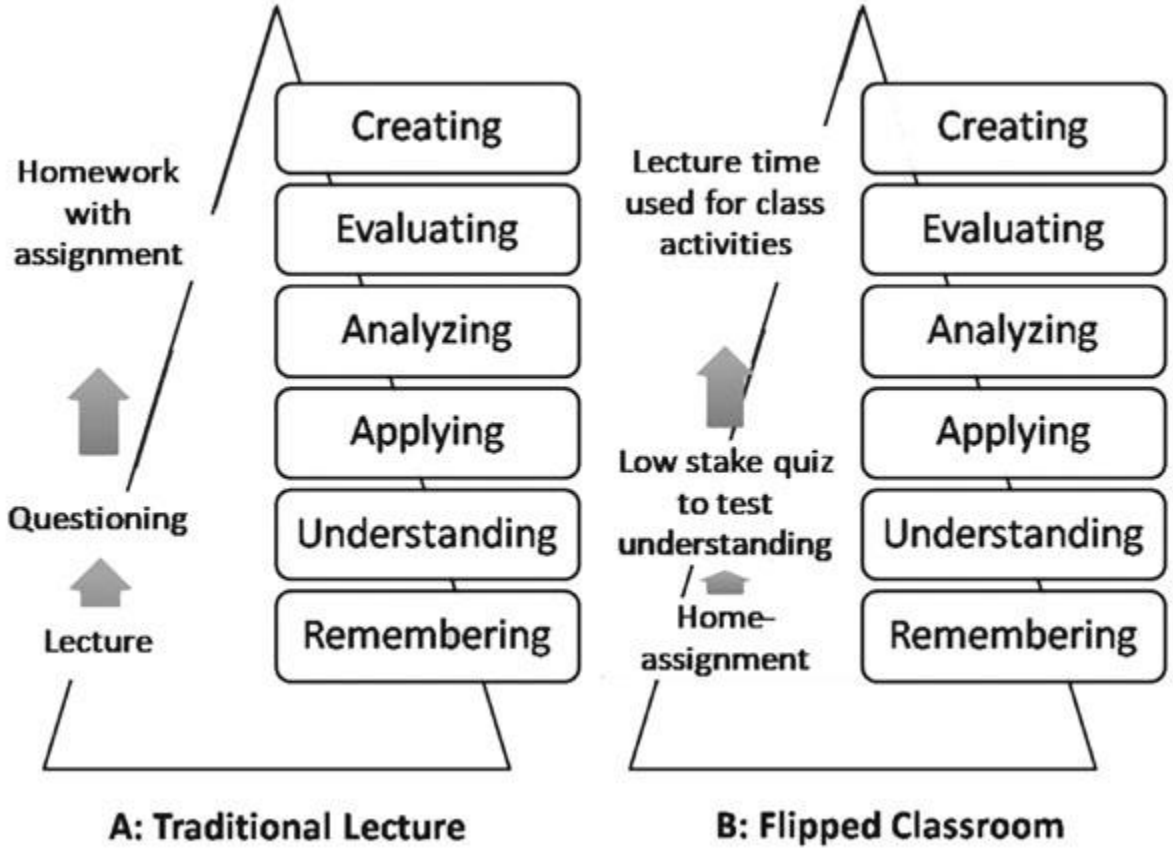
The process of traditional classroom (A) and flipped classroom (B) as aligned with revised Bloom's taxonomy.



Source: https://www.indianpediatrics.net/june2018/june-507-512.htm

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Two basic conditions that a teacher must meet in order for the method to make sense are:

- excellent knowledge of the taught subject (mastery!);
- excellent knowledge of the group of students with whom he/she works (cultural, psychological, social, economic and technical conditions).

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How to make videos your students will love

- Keep it short;
- Animate your voice;
- Create the video with antoher teacher;
- Add humor;
- Do not waste your students' time;
- Add annotations;
- Add callouts;
- Zoom in and out;
- Keep it copyright friendly.

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Time management in class (exemplary)

Traditional Classroom		Flipped Classroom	
Activity	*Time*	*Activity*	*Time*
Warm-up activity	5 min.	Warm-up activity	5 min.
Go over previous night's homework	20 min.	Q&A time on video	10 min.
Lecture new content	30–45 min.	Guided and independent practice and/or lab activity	75 min.
Guided and independent practice and/or lab activity	20–35 min.		

Source: J. Bergmann, A. Sams (2012), Flip your classroom.p.15

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10 Practical principles

of flipped classroom design

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1. Practical principles of flipped classroom design:

Providing students clearly written (also discussed!) and well-organised instructions (without students' full acceptance of the application of the method, success will not occur). The teacher's primary task is to explain to students the goals and principles of the flipped classroom, provide clear and precise instructions, and guidelines for participation in classes.

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1. Practical principles of flipped classroom design:

A cycle of training in IT, self-work skills, independent learning, organisation and time management, responsibility for one's learning style and pace, and participation in team problem solving may be necessary.

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1. Practical principles of flipped classroom design:

- Awareness and acceptance of the purpose and principles of the flipped classroom method;
- Awareness and acceptance of the learning outcomes;
- Awareness and acceptance of self-motivation need during the tasks implementation – the specific teacher's role and the students' roles.

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2. Practical principles of flipped classroom design:

Planning and providing adequate time to complete assignments according to the group possibilities and limitations (agreed with students).

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3. Practical principles of flipped classroom design:

Quality of didactic materials

Provide opportunities for students to acquire preliminary information before the classes (**professional teacher's created** materials: videos, animations, articles, presentations, sound materials, websites, applications or **good quality** ready-made web materials).

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4. Practical principles of flipped classroom design:

The appropriate selection of educational tools

Ensuring the use of familiar technology that students can easily access (a good understanding of the capabilities and limitations of a specific group of students is needed - in terms of economic (technical) capacity and software skills.

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5. Practical principles of flipped classroom design:

Students' motivation system

Encouraging students to watch online lectures and prepare before the classes (designing or finding good quality data online, presented appropriately to a particular group of students' perceptual abilities and expectations).

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6. Practical principles of flipped classroom design:

Combining out-of-class activities and in-class activities

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6. Practical principles of flipped classroom design:

Students Learning Home Activities (exemplary)

- Students will watch YouTube videos (total length depends on the group).
- While watching the videos, students will complete an attached note sheet designed to help them collect information, draw pictures, e.g. of the specific models, and write questions that they still have.
- Students will complete a brief Google Form when they finish watching the videos sharing one thing they understand well and one question or uncertain topic. The teacher will review these questions and use them to develop the instruction in the in-class.

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6. Practical principles of flipped classroom design:

Students Class Activities (exemplary)

1. The class will open with a question and answer session, and the teacher will ask questions raised by students (Google Form) if no one provides questions in class (discussion).
2. Students that did not watch the videos will go to the back of the room to watch them on their phones or different equipment.
3. Students will work in small groups to complete the side of the material presented. The teacher will lead a discussion on the note sheet after students have time to work. Students will be placed in groups based on their strengths and weaknesses based on the Google form results. Each group can work at their own pace and revisit the multimedia material using their smartphones. The teacher serves as an expert to each group during the classes, answering their questions and setting their objectives. Working cards are a great way to do this in the classroom; work cards, brainstorming, debate, exercises with iconographic, SWOT analysis, WebQuest, etc.

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6. Practical principles of flipped classroom design:

Students Class Activities (exemplary)

4. Teacher will lead students in the discussion of notes. Students will be asked to use phones or other equipment to research some of the videos' images and experiments that weren't covered. The teacher will create a collaborative note sheet (displayed on the screen) as students find information and will be shared with all students in the class.

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7. Practical principles of flipped classroom design:

Encouraging students to form a learning community (necessary for teamwork, collaboration and sharing in-class).

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8. Practical principles of flipped classroom design:

Providing immediate feedback on individual or group work

(using the appropriate, available platforms to maintain regular contact and meet all students' needs).

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9. Practical principles of flipped classroom design:

Organising assessment methods – possible forms

quiz, computer-based multiple-choice tests, written essays or short answers, educational games, project work, peer to peer valuation, e-portfolios (an online compendium of student work, assignments questionnaires and exam answers), individual lent participation rates in online activities, such as self-assessment questions, discussion forums, podcasts; qualitative analysis e discussion forums, for instance, the quality and range of comments, indicating the level or depth of engagement or thinking.

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9. Practical principles of flipped classroom design:

Organising assessment methods - types of evaluation:

Individual student work outside the class:

Diagnostic assessment: Its aim is to gather information so in this case grades are not given. We do this type of assessment at the beginning of the academic year or when introducing a new subject.

Formative assessment: It is based on regular monitoring. It gives feedback to students and to the teacher during the activities.

Summative assessment: This happens at the end of an activity, to check to what extent the objectives were met.

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9. Practical principles of flipped classroom design:

Organising assessment methods - types of evaluation:

In terms of who is involved in the assessment:

- Teacher evaluates individual student development;
- Teacher evaluates team work;
- Student self-assessment;
- Student assessment by peers.

Instruction needs to be provided by the teacher at the beginning, so students gradually learn how to provide feedback about their own performance or about their peers'performance.

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10. Practical principles of flipped classroom design:

Assessment is not an end in itself, class time cannot be used just to prepare students for tests, nor can home time be considered homework.

The objective of assessment is to improve the quality of learning

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Methods possibly used before/ouside class activities

Audiovisual lecture, using the demonstration method, conducted with an appropriate technological tool – pre-recorded and made available to students before/outside the class, using appropriate technology tools.

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Methods possibly used during in-class activities

Collaborative learning/Teamwork – fosters students engagement during class time integrating technology

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PROJECT

The project method is one of many teaching methods based on learners' own activity. The term "project" refers to the entirety of activities undertaken by students on the basis of predefined assumptions. The project makes use of the student's natural curiosity, allows for different problem-solving strategies.

Project phases

1) Initiating the project.
2) Writing the contract.
3) Choice of topic.
4) Dividing into groups.
5) Formulating general and specific objectives of the project.
6) Preparing the work schedule, task division.
7) To select literature and search for sources of knowledge.
8) Implementation of the project.
9) Presentation of the project results.
10) Evaluation.

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DEBATE, DISCUSSION

1) **Panel discussion**: participants first have the opportunity to listen to opinions, information from people who are experts on the topic or can share their experience. Then they prepare questions for the panellists and can start the discussion. Both panellists and listeners take part in the discussion. It is good to end the meeting with a reflection, e.g. by proposing the question "What have I learned today about myself and the world?„
2) **Oxford debate**: a form of debate on a specific thesis. The participants are divided into two teams: supporters and opponents of a given thesis. They decide which side they are on before the debate starts. It is also worth choosing from among the participants a secretary in the team, who will write down the conclusions of each side, questions and watch over the time. In an Oxford debate, it is necessary to follow the rules written in the contract. We work on facts, open questions and not judgements. You can change sides in the debate during the course.

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DEBATE, DISCUSSION

3) "Aquarium" discussion: the intention of the "aquarium" type of discussion is for team members to learn from each other and improve their discussion skills. The procedure in brief: setting the topic of the discussion, duration of one round (e.g. 20 minutes), choosing discussants (3-5 persons from the group) who start talking among themselves in the middle of the room. After the round, the others give feedback to the discussants on how the discussion was conducted (not on their views or opinions).Then the following persons can start the discussion.

4) Socratic discussion: a form of intellectual conversation based on a specific publication known to all participants (text, strategy, report, poem, recording, article, picture) - they usually read it before the group meeting. They can propose it themselves. The discussion is based on questions that the moderator can write out. Sample questions: What is the thesis? What are the facts? What do the facts imply? What premises support the thesis? What supports the thesis? What can be learned from this? What is important here? Why talk about it? What can be implemented in our organisation?

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BRAINSTORMING

Brainstorming is a group creativity method by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its members. It is a situation where a group of people meet to generate new ideas and solutions around a specific domain of interest by removing inhibitions. Students are able to think more freely and they suggest as many spontaneous new ideas as possible. All the ideas are noted down without criticism and after the brainstorming session the ideas are evaluated. A group of students could write ideas on sticky notes as part of a brainstorming session.

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CASE STUDY

A method of analysis of a specific case, event, phenomenon, allowing to draw conclusions as to causes and results of its course, characteristics, technical, cultural, social conditions, etc. It develops creative thinking, inspires learning and a comprehensive look at the problem.
Case study can also be a form of presentation of the completed project. It shows the goals, challenges, problems and chosen paths of action, which were taken by a particular group. Thanks to such practice, we can learn from the experience of other people, organisations.

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CASE STUDY

Example stages of group work with a selected case study:

1) Getting acquainted with the case study prepared by the process facilitator;
2) Creating a map of context/knowledge/facts: establishing what we know, what comes from the description and our information that we currently have, and naming what we don't know and need to check;.
3) Identifying problems and their causes and effects;
4) Determining the main problem, i.e. the key element that the team wants to address;
5) Checking, deepening information about the main problem and its causes - looking for data from verified sources. This is a learning moment - participants share their work in this field, collect data, pass acquired information and conclusions to each other;
6) Determining the main goal (usually a mirror image of the main problem);
7) Proposal of solutions (specific goals + concrete tasks to achieve them);
8) Action plan.

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PROBLEM-BASED LEARNING

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of solving an open-ended problem found in trigger material. The PBL process does not focus on problem solving with a defined solution, but it allows for the development of other desirable skills and attributes. This includes knowledge acquisition, enhanced group collaboration and communication. The process involves clarifying terms, defining problems, brainstorming, structuring and hypothesis, learning objectives, independent study and synthesis. The identifying what the students already know, what they need to know, and how and where to access new information that may lead to the resolution of the problem.

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GAME-BASED LEARNING

Game-Based Learning (GBL) is designed to balance subject matter with gameplay and the ability of the player to retain and apply said subject matter to the real world, an effective method for making students work toward a goal, allowing them to learn through experimentation, practicing behaviours and thought processes that can be easily transferred from a simulated environment to real life. GBL is often mixed with gamification, understood as the application of game elements and digital game design techniques to non-game problems, such as business (growing in education technology) and social impact challenges. The line between GBL and gamification is sometimes very thin; the elements of gamification are normally present in a GBL activity.

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Stages that could be undertaken using game-based learning method - exemplary

1)*Watching and watching the film again*. Students watched and watched again at home the animation film sent by their teacher to the classroom group. They had been notified that the film could be watched as many times as needed to understand the content.

2)*Discussion with the teacher*. During the Zoom meeting, the teacher discussed with students the content of the animation film, offered support to students who had difficulties understanding the content, offered additional explanations, and corrected wrong conceptions.

3)*Game-based evaluation*. The game designed using the Wordwall platform was sent through the Zoom chat. After finishing the game, students received the score, information about the correct answers as well as the wrong ones.

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JIGSAW

The ‘Jigsaw Method’ is one form of a cooperative learning strategy and is designed to facilitate individual and group learning activities in education. The strategy requires that the learning is initially shared among the group and provides everyone in the class with an understanding of the entire topic or concept. For the activity, the class is divided into small ‘Jigsaw’ groups. The main topic is divided into several sub-topics which are then assigned to students within each group. Individual students must research their assigned sub-topic before joining up in expert groups with students who have been assigned the same sub-topic. The expert group allows students an opportunity to share and learn from one another and clarify any misconceptions garnered during the individual research stage.

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