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Defining learning outcomes in a flipped classroom

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What are learning outcomes?



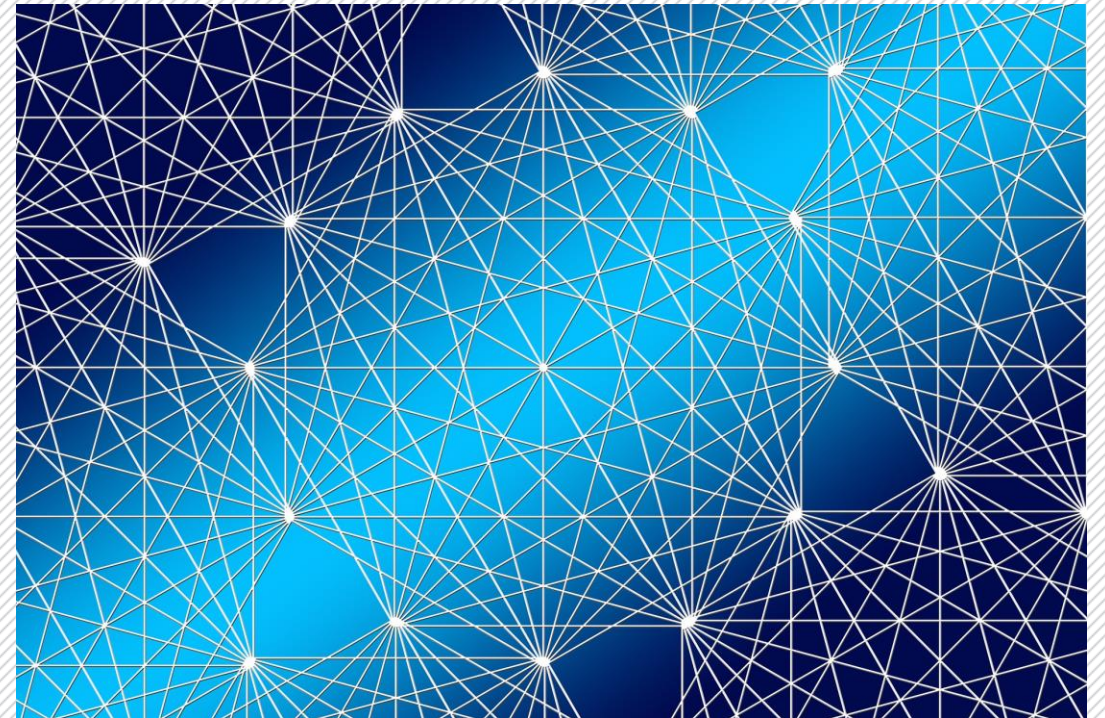
- “<...> statements of **what** learner is expected to **know, understand** and **be able to demonstrate at the end of a learning experience**” (Kennedy, Ryan & Hyland, 2007).
- A guide for planning, teaching and assessing.





Learning outcomes aim to help:

- to select and plan the course content;
- to choose and develop an instructional strategy;
- to develop and select learning material;
- to plan appropriate (active) learning methods;
- to create tests and other type of assignments that help to assess and evaluate.





General and specific learning outcomes

- General learning outcomes - broad statements that define outcomes of the overall course.
- *At the end of the course students will be able to develop a flipped classroom lesson plan.*
- Specific learning outcomes – more specific statements that are assessable and that help students to understand what is expected of them to know or demonstrate in their learning.
- *Students will be able to identify main active learning methods in a flipped classroom.*





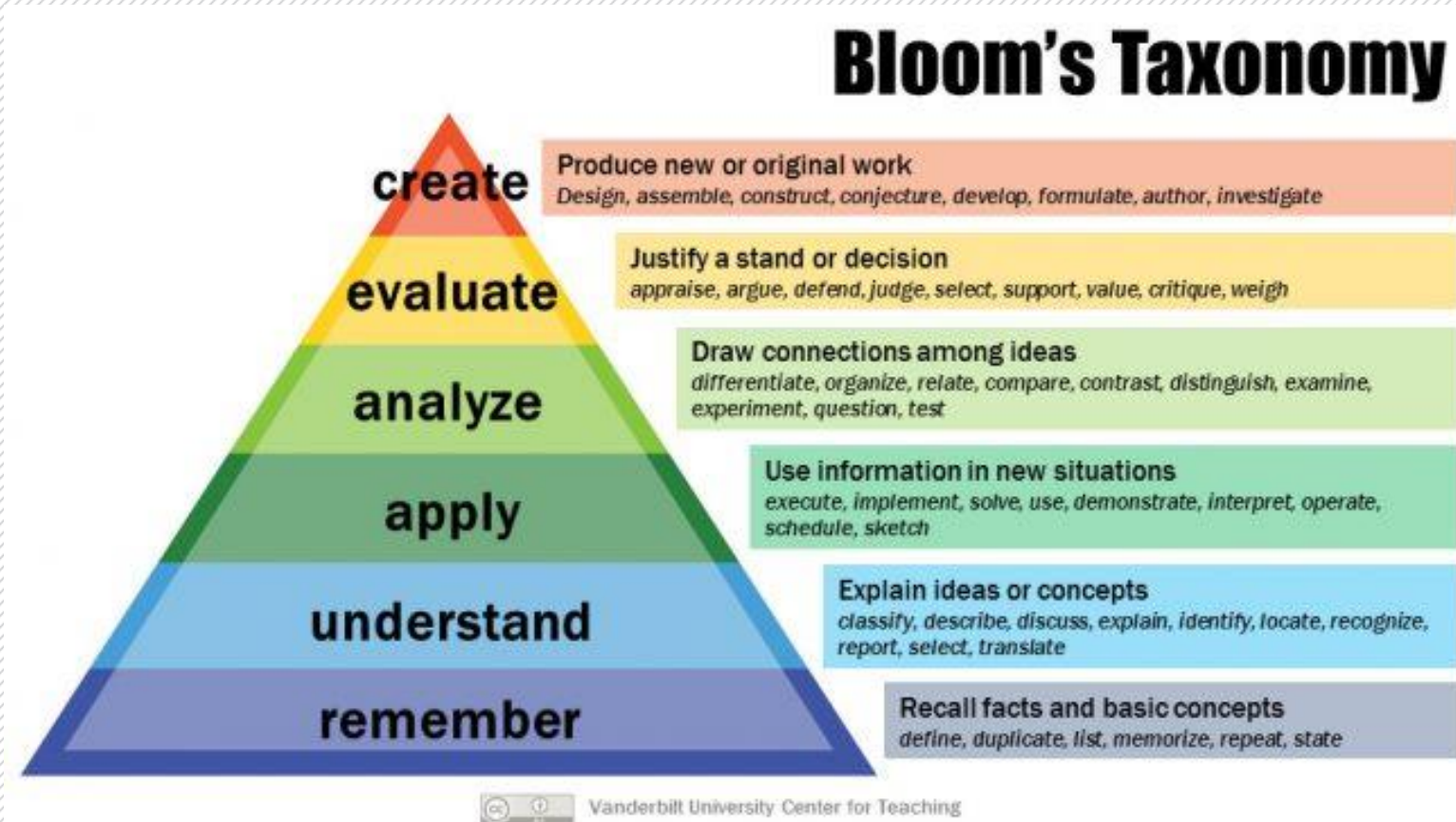
What characterizes a good learning outcomes?



- **Specificity**
- **Measurability**
- **Attainability**
- **Relevance**
- **Time-bound**
- **Clarity**
- **Alignment with the program's curriculum**



Blooms' taxonomy for defining learning outcomes

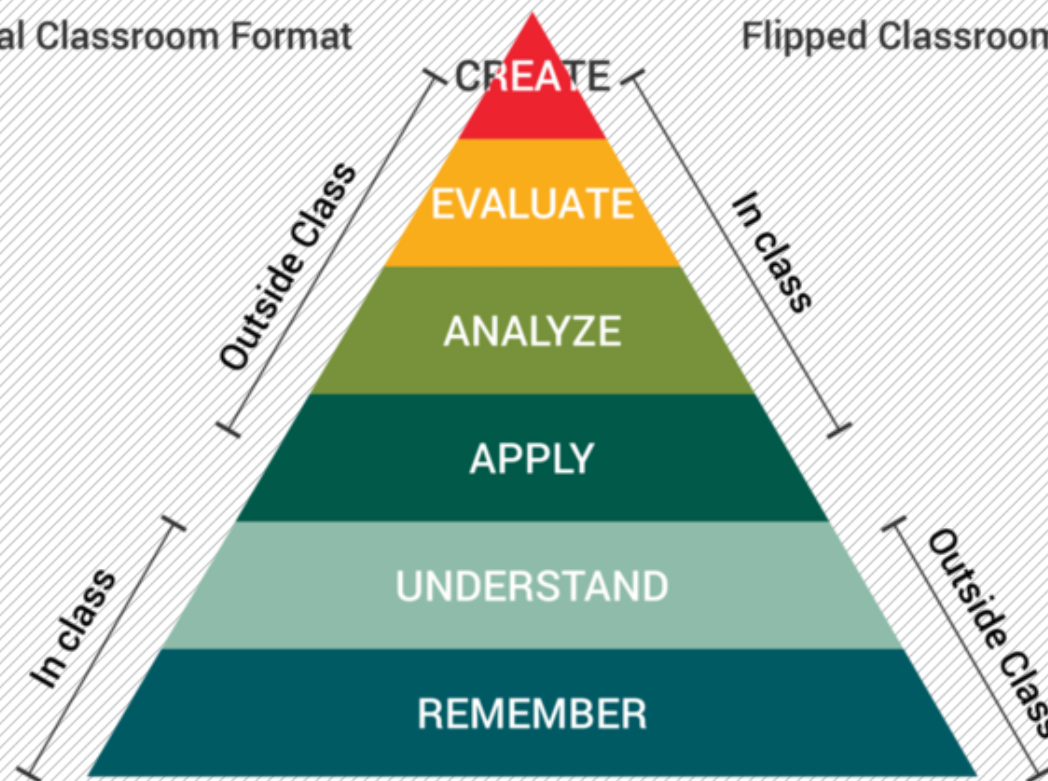




BLOOM'S TAXONOMY IN A FLIPPED CLASSROOM

Traditional Classroom Format

Flipped Classroom Format



Source:
<https://thesecondprinciple.com/essential-teaching-skills/blooms-taxonomy-revised/>



FLIPPED CLASSROOM MODEL

Outside-of-class

Components traditionally delivered in-class—such as lectures—are delivered outside-of-class via web-based materials like:

- Videos
- Demonstrations and tutorials
- Simulations and games

BENEFIT

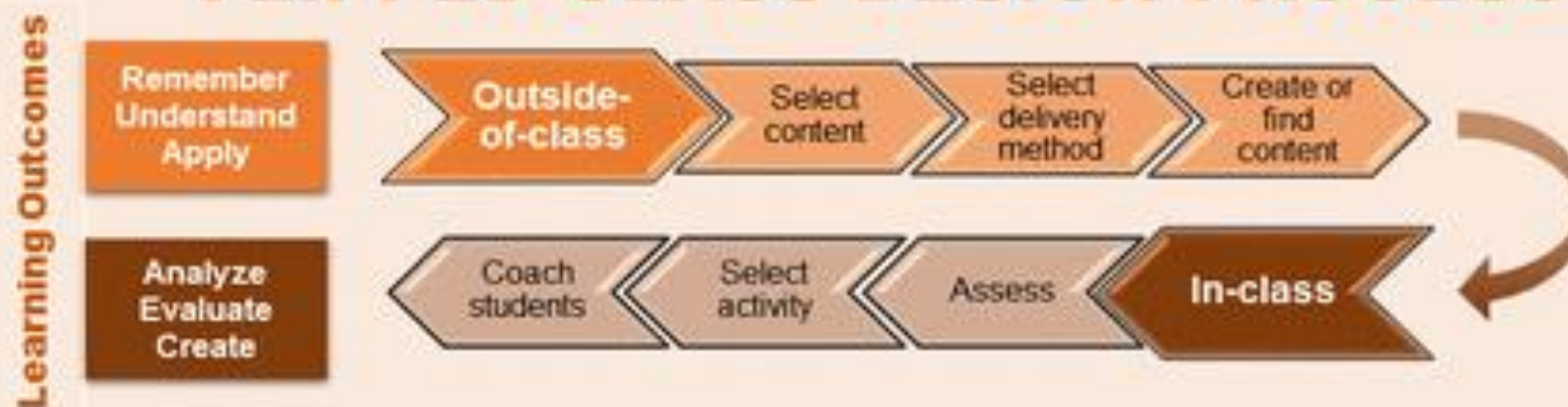
Provides faculty with more time in-class to work with individual students and allows students to master content at their own pace

In-class

In-class time is used for deeper engagement with content, while the instructor provides guidance, through:

- Collaborative projects
- Individual and group problem-solving
- Peer-based learning activities

FLIPPED CLASS DESIGN PROCESS



Source: <https://texascomputerscience.weebly.com/flipped-classroom.html>

n/essential-
teaching-skills/blooms-taxonomy-revised/



Bloom's taxonomy – a powerful tool to help develop learning outcomes as it explains the process of learning

- before you can understand a concept, you must memorise it;
- to apply a concept, you must first understand it;
- to evaluate a process, you must analyse it;
- to form an accurate conclusion, you must undergo a thorough evaluation.





When writing learning outcomes...

- start with an active verb and make it a statement which describes knowledge and abilities that students should demonstrate at the end of the course/topic
- make learning outcomes easy to measure and assess
- ensure that students understand what they are expected to know or be able to do
- ensure that there is an alignment between teaching and learning activities, learning outcomes and assessment criteria
- Think of what learning outcomes could be achieved through active learning methods and then apply flipped classroom approach.





5 questions for instructional design

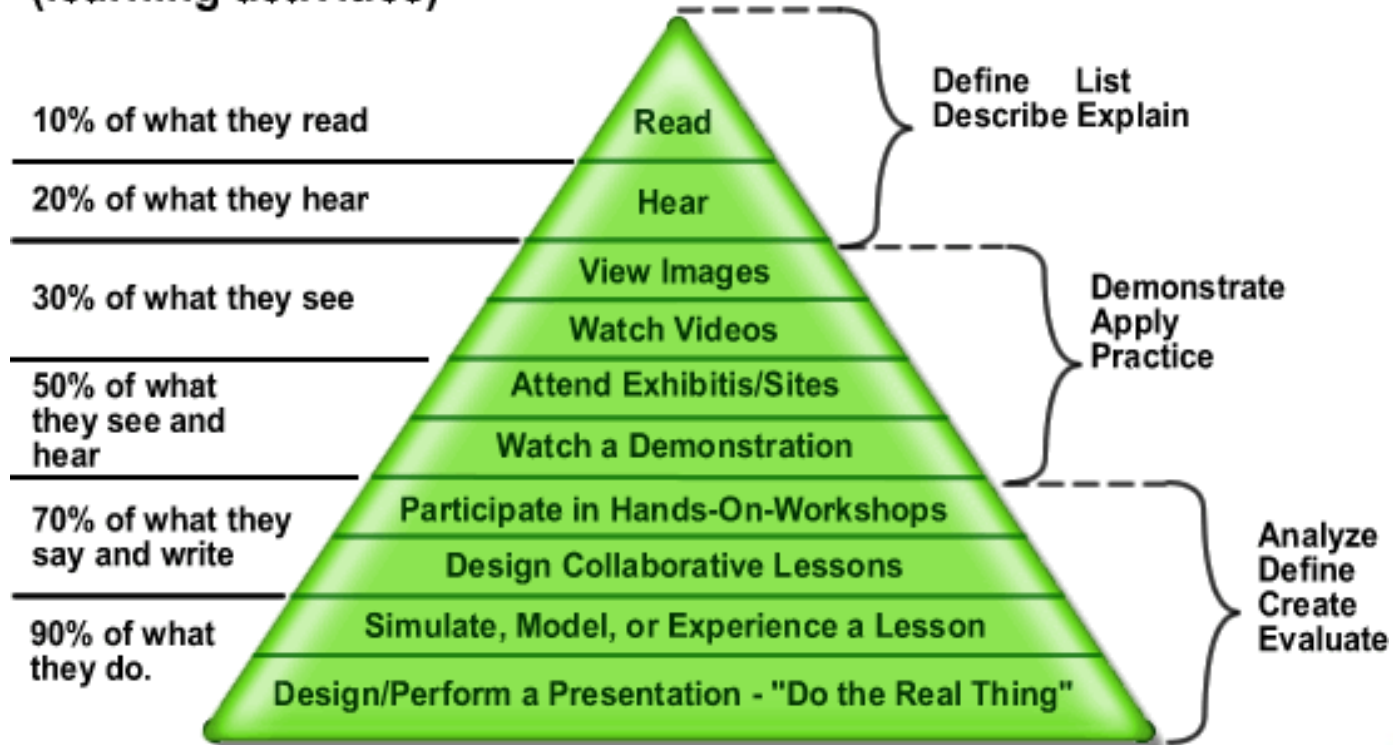
- What do you want your students to be able to do? (Outcome)
- What does the student need to know in order to do this well? (Content)
- What activity will facilitate the learning? (Pedagogy)
- How will the student demonstrate the learning? (Assessment)
- How will I know the student has done it well? (Criteria)



How we remember...

People generally
remember...
(learning activities)

People are able to...
(learning outcomes)



Source: Anderson, J.
<http://www.edutechie.ws/2007/10/09/cone-of-experience-media/>, CC BY-SA 3.0,
<https://commons.wikimedia.org/w/index.php?curid=37711912>





For more information and practical tips

- <https://teaching.utoronto.ca/teaching-support/course-design/developing-learning-outcomes/what-are-learning-outcomes/>
- <https://www.mohawkcollege.ca/employees/centre-for-teaching-learning/curriculum-development/how-to-write-course-learning-outcomes>
- <https://www.bu.edu/provost/planning-assessment/program-learning-outcomes-assessment/writing-learning-outcomes/>



References

- Blooms' taxonomy. University of Waterloo, Centre for Teaching Excellence. <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/planning-courses-and-assignments/blooms-taxonomy>
- Developing learning outcomes. University of Toronto, Centre for Teaching Support & Innovation. <https://teaching.utoronto.ca/teaching-support/course-design/developing-learning-outcomes/what-are-learning-outcomes/>
- Flipped classroom e-methodology (2021). <https://us.edu.pl/pracownik/wp-content/uploads/sites/2/Nieprzypisane/Flipped-classroom-based-e-methodology-OUTPUT-1.pdf>
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- Writing intended learning outcomes. University of Waterloo, Centre for Teaching Excellence. <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/planning-courses/course-design/writing-learning-outcomes>

Note: pictures retrieved from [pexels.com](https://www.pexels.com) and [pixabay.com](https://www.pixabay.com)