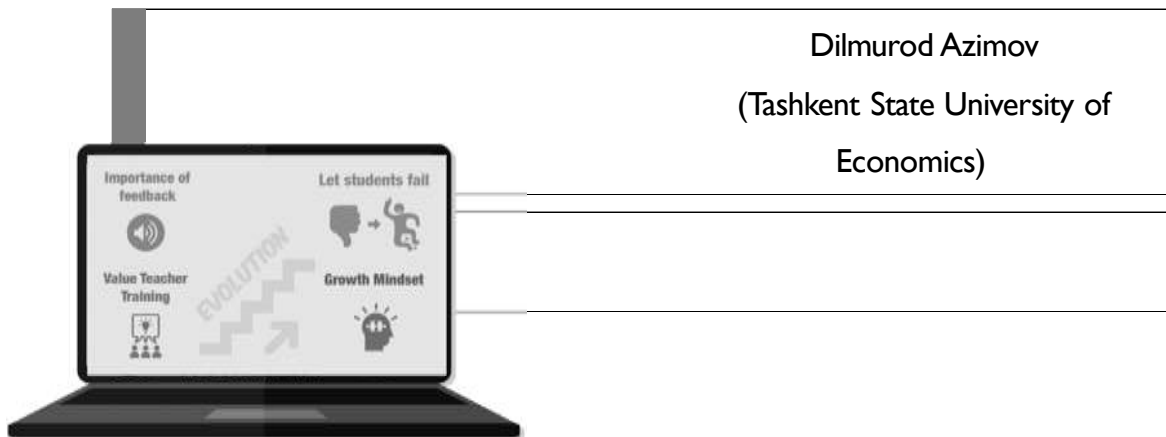


# EduTech



## Contents

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- Concept of Active Learning
- PBL, AL, FL
- Open Educational Resources

# Concept of Active Learning

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▶ 3

Which one do you prefer?

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1



2



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▶ 4

# 21<sup>st</sup> Century Learner

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[Source: Bailey Mackres]

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## By the age of 21...

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- ▶ 10,000 hours playing video games
- ▶ 200,000 emails
- ▶ 20,000 hours watching TV
- ▶ 10,000 hours talking on a cell phone
- ▶ less than 5,000 hours reading

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▶ 6

# Classroom Disaster?

Mona Lisa Smile , 2003



▶ 7

## In reality

What  
Teachers  
Teach

≠

What  
Students  
Learn



▶ 8

# Innovation of Higher Education

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## 10 Required Skills for Future

[World Economic Forum, 2016]

- ▶ Complex Problem Solving
- ▶ Critical Thinking
- ▶ Creativity
- ▶ People Management
- ▶ Coordinating with Others
- ▶ Emotional Intelligence
- ▶ Judgment and Decision Making
- ▶ Service Orientation
- ▶ Negotiation
- ▶ Cognitive Flexibility

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## Active Learning:

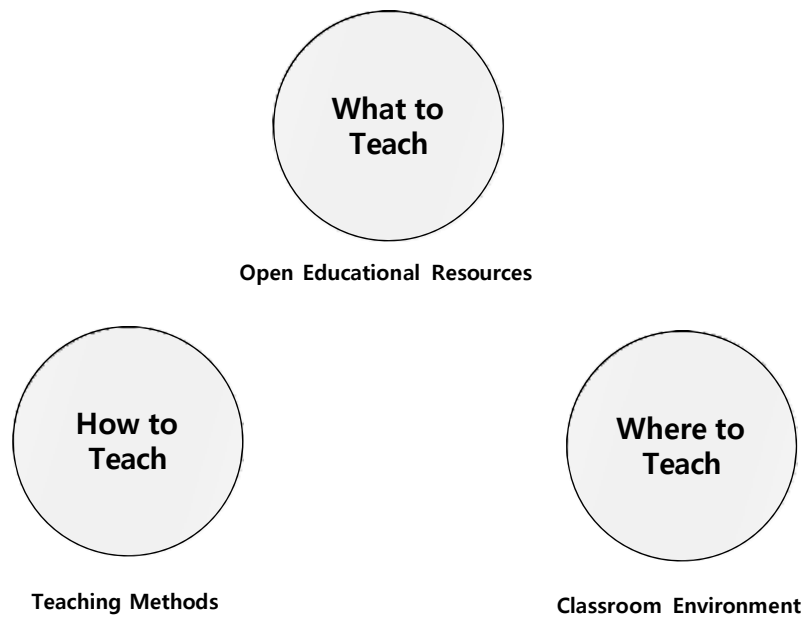
Any type of class in which students not only listen passively to a professor but also take actions

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▶ 10

# Changes behind Active Learning

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# Classroom for Active Learning

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**Active Learning Classroom in  
University of Minnesota**



**Active Learning Classroom in  
Keimyung University**

# Library for Active Learning

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Using Multimedia Resources in  
KMU Dongsan Library



VR/AR & 3D Printing  
Experience Room in KMU  
Dongsan Library

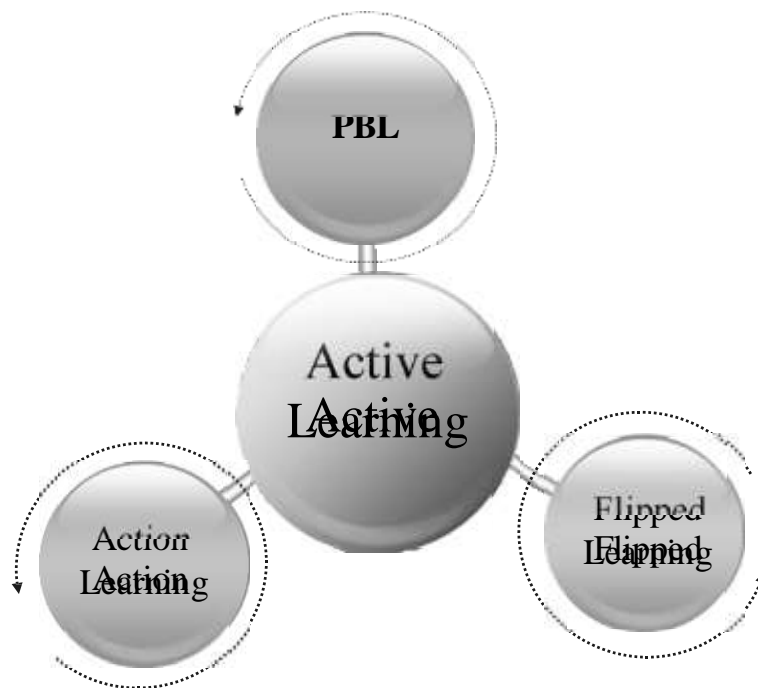
# Types of Active Learning

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- **Cooperative Learning**
- **Action Learning**
- **Role Playing**
- **Problem Based Learning**
- **Experiential Learning**
- **Team Based Learning**
- **Case Studies**
- **Flipped Learning**
- **Design Thinking**
- **Project Based Learning**

# Active Learning in KMU

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## University Active Learning

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- ▶ Classes with appropriate level of learning burden for students
- ▶ Classes with appropriate teaching methods to motivate students to enjoy self-driven learning experiences
- ▶ Providing chances to improve professors' teaching skills with new teaching models

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# Characteristics of Active Learning

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- ▶ More emphasis on the students' responsibility & participation in the learning process
- ▶ Hands-on experience
- ▶ Learning by doing

**PBL, AL, FL**

## Problem Based Learning:

a student-centered teaching method in which students learn about a subject through the experience of solving an open-ended problem found in trigger material

[adapted from wikipedia, 2018]



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## Use of Problem(Case)

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- ▶ Case as an example
  - ▶ Used as an important resource for problem-solving
- ▶ Case as an adviser
  - ▶ Used as an important reference for problem-solving
- ▶ Case as a problem
  - ▶ Important starting-point for problem-solving

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# Characteristics of PBL

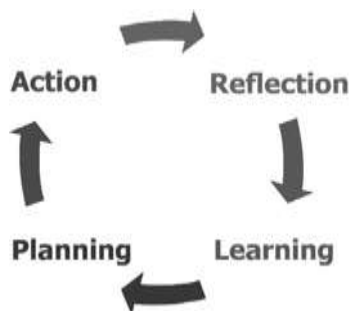
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- ▶ Start learning from problems
- ▶ Student-centered learning experience
- ▶ Small group activities
- ▶ Self-driven learning
- ▶ Professor's role as a facilitator

## Action Learning:

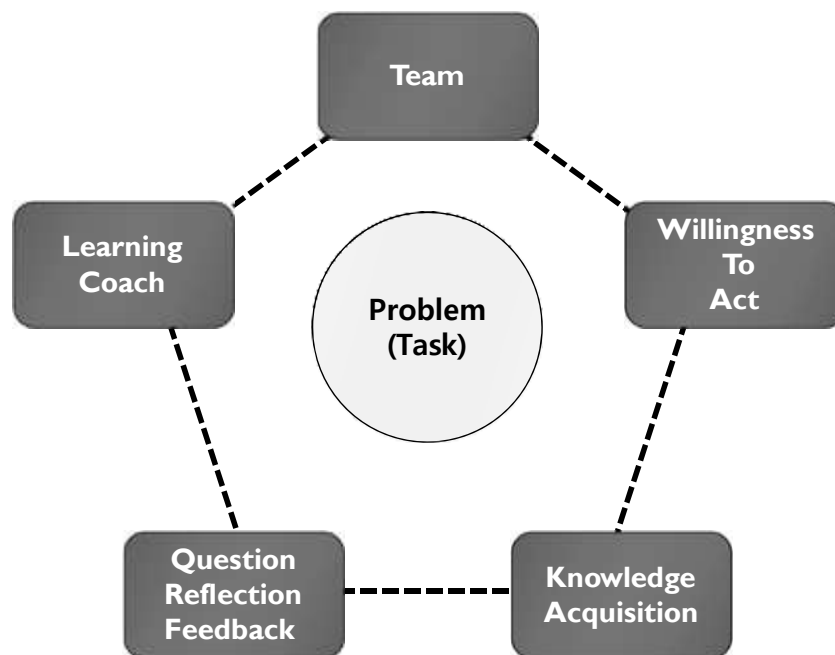
an approach to solving real-life problems that involves taking action and reflecting upon the results

[adapted from wikipedia, 2018]



## 6 Components of Action Learning

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## Learning Coach

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- ▶ A person who is neutral in the discussion topic covered by the learning team and conducts systematic questions, feedback and reflections to help students learn the contents as well as problem-solving process as an internal or external process specialist



[Dead Poets Society, 1989]

*I stand upon my desk to remind myself that we must constantly look at things in a different way.*

*[John Keating]*

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## Flipped Learning:

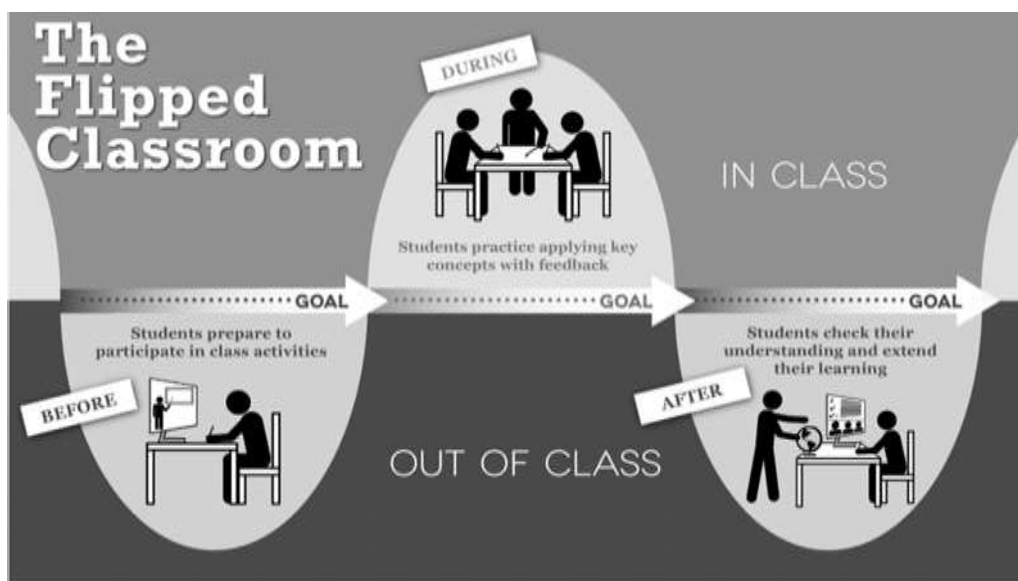
an instructional strategy and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom

[wikipedia, 2018]



Aaron Sams and Jonathan Bergmann

## How to Flip



[Source: <https://facultyinnovate.utexas.edu/flipped-classroom>]

# Open Educational Resources

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EduTech

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**Education**  
+  
**Technology**

edutech 

4<sup>th</sup> Industrial Revolution in Education

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## State-of-the-market EduTech

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## Change of Students

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**1.0**



**3.0**



[source: <http://sits.co.kr/110093714533>]

# Change of Classroom

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2.0



3.0



# Offline vs. Online

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- ❖ Class size: 50-60
- ❖ Real participants: 20-30(?)
- ❖ Twice per week, 3 hours
- ❖ Limited Q&A & interaction with students

- ❖ Class size: 100
- ❖ Real participants: ???
- ❖ 3 30-min. videos per week, unlimited times of watching
- ❖ Online Q&A & interaction with students

# Proliferation of e-Learning

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## OCW(Open Course Ware)

- Free web service to provide online access to e-Learning content developed by universities
- Possible for anybody to take free courses on Internet, regardless of age, nationality or occupation



# Proliferation of e-Learning

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## MOOC (Massive Open On-line Course)

- No limitation for class size (Massive), open to everyone (Open), web-based (Online) and course with pre-defined learning objectives (Course)
- Possible to get university credits for a degree



# Characteristics of MOOC

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- Short lecture in less than 20 minutes: increased class immersion & free class scheduling
- Learning management system for discussion, quiz, feedback, etc.
- Teacher-to-student, student-to-student interactive learning: creating and operating a student-driven online discussion board
- automatic test grading and peer-evaluation features



# MOOC Content on Internet

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- ▶ Mainly for elementary and middle school math and science education
- ▶ Providing student's learning information
- ▶ Training by level



- ▶ Courses in various disciplines
- ▶ Many partners (Stanford, Michigan, Princeton, etc.)
- ▶ Courses in 7 different languages



- ▶ Mainly for computer science
- ▶ Profit-oriented
- ▶ Degree program linked to universities
- ▶ Various industry-academic cooperation programs



- ▶ High quality educational contents
- ▶ Linked to world top-class universities (MIT, Harvard, etc.)

# Boom of Nano-Degree / Micro-Degree

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- ▶ a credential focused upon a specified professional or career discipline and typically comprising one or more sources of accelerated educational experiences



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# World Largest OER?

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[moneytoday, 2018]

- ▶ In Korea, GodTube
- ▶ Video-based platform business
- ▶ Subscription model: Premium Youtube
- ▶ Penetration into online advertisement market
- ▶ Creation of new jobs

Korean teenagers spent 129 million hours on Youtube in July 2017.

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