TECC OPERATION TRAINING
Politeknik Melaka
Definitions of “Flipped Classroom”

History

• 1993: Alison King focused on the importance of the use of class time for the construction of meaning rather than information transmission.
  
  -King, Alison. "From sage on the stage to guide on the side." 1993 article in College teaching

• 1997: Harvard professor Eric Mazur moved information transfer out of the classroom and information assimilation into the classroom, allowed him to coach students in their learning instead of lecture
  

• 2004: Salman Khan recorded lessons that would let his student “skip segments she had mastered and replay parts that were troubling her”
Definitions of “Flipped Classroom”

History

• 2007: Woodland Park High School chemistry teachers Jonathan Bergmann and Aaron Sams became driving forces in flipped teaching at the high school level

  - No one person can be credited with having invented the inverted or flipped classroom
  
  - No one 'right' way to flip a classroom as approaches and teaching styles are diverse, as are needs of schools

Definitions of “Flipped Classroom”

Flipped Learning Network (FLN):

• Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

(http://flippedlearning.org/)

Wikipedia:

• 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. It moves activities, including those that may have traditionally been considered homework, into the classroom. In a flipped classroom, students watch online lectures, collaborate in online discussions, or carry out research at home and engage in concepts in the classroom with the guidance of a mentor.

(https://en.wikipedia.org/wiki/Flipped_classroom)
Characteristics

Flipped instructional models in Wisconsin Collaboratory for Enhanced Learning (WisCEL) at the University of Wisconsin-Madison emphasize:

• content delivery outside class: ie- on-line, rather than through lecture

• active learning strategies in-class: ie- small group work, problem solving, critical thinking and discussion

(http://www.wiscel.wisc.edu/teaching-learning/innovation/)
Characteristics

- Focus on active learning
- Learning environment is student-centered
- Mastery learning model?
  - teachers to provide the materials, tools and support for learning
  - students set goals and manage their time, ie- students choose how to demonstrate mastery - testing, writing, speaking, debating
  - Advanced students work on independent projects while slower learners get more personalized instruction
Characteristics

• Guidance from educator, lecturer, teacher, etc.
  
  ▪ They are there to observe, support students in the learning process, and provide feedback when necessary.

  ▪ They are not instructing in the group space or even providing all the answers to questions.

Allison B. Nedeveld (https://abnederveld.com/2014/05/02/flipped-primer-1/)
Flipped Learning Process

Supporting Bloom's Taxonomy in Traditional & Flipped Classrooms

<table>
<thead>
<tr>
<th>Levels of Learning</th>
<th>Traditional Classroom Tools</th>
<th>Flipped Classroom Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remember</td>
<td>Face-to-face lecture</td>
<td>Pre-recorded lecture, reading, podcasts, websites</td>
</tr>
<tr>
<td>Understand</td>
<td>Q&amp;A</td>
<td>Reflection, peer-to-peer discussion &amp; collaboration</td>
</tr>
<tr>
<td>Apply</td>
<td>Homework</td>
<td>Instructor supported classroom activities</td>
</tr>
<tr>
<td>Analyze, Evaluate, Create</td>
<td>Homework or nothing</td>
<td>Student projects and presentations</td>
</tr>
</tbody>
</table>

Use of a flipped learning model allows the instructor to spend more time to support higher level learning tasks like application, analysis and creation.

Allison B. Nedeveld (https://abnederveld.com/2014/05/02/flipped-primer-1/)
Flipped Learning Models

Simple Model

A great place to start as it encourages application and discovery, rather than more routine assignments, as the best use of classroom time

Allison B. Nedeveld (https://abnederveld.com/tag/neuroscience/)
Flipped Learning Models

Jackie Gerstein’s Flipped Classroom Model presented in 2011
(https://usergeneratededucation.wordpress.com/2011/06/13/the-flipped-classroom-model-a-full-picture/)

Learner-Generated
Creative, Personalized Projects and Presentations

Demonstration & Application
(Analyze, Create Evaluate)

Experiential Engagement
(Apply)

Meaning-Making
(Understand)

Concept Exploration
(Remember)

Educator-Suggested
Hands-on Activities
Games
Simulations
Interactives
Community Projects
Experiments
Art

Educator-Suggested
Video Lectures
Audio Lectures (Podcasts)
Content-Rich Websites
Online Chats

Note:
Students can also use text books, newspapers, journal and magazine articles, a user manual, or any other low-tech material to explore a topic.

Allison B. Nederveld (https://abnederveld.com/tag/neuroscience/)
Flipped Learning requirements:

The FLN states that there are four key features, or pillars, of flipped learning:

• **Flexible Environment** – A flipped classroom must be flexible in several ways. Since classroom time is spent on activities, the physical space must be flexible; educators should be able to arrange desks, chairs, tables and materials according to the type of activity.

• **Learning Culture** – A flipped learning environment is student-centered. The instructor must deliberately construct meaningful knowledge construction activities. Students have greater responsibility in the learning process and are not reliant upon the instructor for new content and learning evaluation.

Allison B. Nedeveld (https://abnederveld.com/tag/neuroscience/)
Flipped Learning requirements:

• **Intentional Content** – An instructor in a flipped classroom should consider how to best present new information and concepts. Some material needs to be directly taught; other material can be introduced and learned through student exploration. A flipped instructor is intentional about using student-centered techniques to maximize classroom time.

• **Professional Educator** – A flipped educator is not just lecturing on an area of expertise, but supporting students as they dive even deeper into a subject. They are providing continuous feedback and must be knowledgeable enough to support the flexible environment and uncertainties that come along with flipped learning.

Allison B. Nedeveld (https://abnederveld.com/tag/neuroscience/)
Technology Enabled Collaborative Classroom

- Ergonomic Discussion Set with flexible reconfiguration
Technology Enabled Collaborative Classroom

- Creative Corner with Glass Writing Board, Artificial Grass Carpet & Bean Bags
Technology Enabled Collaborative Classroom

- Networked Computer Workstations with Internet Access & Network Printer, High Tables & Chairs
Technology Enabled Collaborative Classroom

- Ultra Short Throw Interactive Projector with Ceramic Steel Non-reflective Whiteboard for Group Collaboration & Presentations on Internet Resources, Multimedia, Interactive Software, Games, etc
Technology Enabled Collaborative Classroom

- LCD TV for Small Group viewing
Technology Enabled Collaborative Classroom

- LCD Projector with Motorized Screen & Full Range Speakers for Large Group Viewing
Technology Enabled Collaborative Classroom

- Wepresent Wireless Presenter for displaying Workstations, Laptops, Mobile Wireless Devices

- Sony Blu-Ray Player

- PTN Matrix Switcher to route any of the sources to the Interactive Projector, LCD TV or Large Screen Projector
Technology Enabled Collaborative Classroom

- Wireless Hand Held Microphone for Large Group Presentation

- Powered Mixer for adjusting the Volume level of the selected source & Master Volume level for the Full Range Speakers
Using the TECC System

• Switching ON

  – Switch ON the main power for Projectors & TV
  – Turn ON the Interactive Projector using the Remote with the BLUE button
  – Set the TV input to HDMI 1 with the Remote
Using the TECC System

- Switching ON
  - Press the down button to lower the Motorized Screen
  - Turn ON the Large Screen Projector using the Remote with the ORANGE button
Using the TECC System

- Switching ON
  - Switch ON the Main Power for Equipment Cabinet
  - Switch ON the main power for PCs 1-3
  - Switch ON the main power for PCs 4-6

- Click on the user PC1 to login at PC1, user PC2 to login at PC2, etc
Technology Enabled Collaborative Classroom

• Selecting the Source to display at Projectors & TV
  - Press the input button of the Source you want, the indicator will light up
  - Press the AV button, the indicator will light up
  - Press the output button for the Projector or TV that you want to display the Source, the indicator will light up, then all 3 indicators will flash once & turn off again
Using the TECC System

- Connecting to WePresent
  - Double Click the MirrorOp shortcut on the Desktop
  - Once MirrorOp has detected the TECC-WePresent, click Connect
  - Enter the code displayed by WePresent on the screen & click OK
Technology Enabled Collaborative Classroom

• Setting the Volume for the Source for Large Group Viewing
  - *The Wireless Microphone volume is set to the optimum comfortable listening level & should not require any adjustment*
  - *The Master volume is also set at the optimum level & should not require any adjustment*

• The Matrix source volume, however, requires adjustment depending on the media being played by the PC or Blu-Ray Player
Using the TECC System

- Switching OFF
  - Turn OFF the Interactive Projector using the Remote with the BLUE button
  - Turn OFF the Large Screen Projector using the Remote with the ORANGE button
  - Press the UP button to raise the screen
  - After the projectors have cooled down & the internal ventilation fans stop, Switch OFF the main power for Projectors & TV
Using the TECC System

- Switching OFF
  - Shutdown the PCs
  - Switch OFF the main power for Equipment Cabinet
  - Switch OFF the main power for PCs 1-3
  - Switch OFF the main power for PCs 4-6
THANK YOU!

Any Questions?

Contact Us :
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