Flipped Classroom (FC): Introduction
Video Links (to be flipped before the seminar)

• What:
  https://youtu.be/Z58CqX3QgKY
  https://youtu.be/r2b7GeuqkPc

• Why:
  • https://youtu.be/9aGuLuipTwg
  • https://youtu.be/EceWjPUgWc8
What is FC?

FC moves **direct-instruction lectures** outside the classroom (usually via online videos) and reserves the in-class time for **higher-order student-centred learning activities**.
What is FC?

A FC does not necessarily result in flipped learning (FL).

FL is not the same as “school work at home and home work at school”.
The four pillars of FL (FLIP)

• Flexible environment (F)
  – FCs accept a variety of learning modes.
  – Students are allowed to learn at any time and any place.
  – Teachers who practise FL are expected to be **flexible in meeting student needs**.
  – Teachers are still obliged to make **objective assessment of student understanding**.
The four pillars of FL (FLIP)

• Learning culture (L)
  – In traditional classroom, teachers are the main provider of information and knowledge.
  – In the FL model, a teacher-centred approach is changed to a student-centred approach.
  – Students review the content outside class and the in-class time is spent on in-depth exploration of the content through interactions with their peers and teachers.
The four pillars of FL (FLIP)

• Intentional content (I)
  – Teachers deliberately examine the content they need to deliver in class while leaving other materials for students to explore outside class.
  – Teachers should constantly think how FL can be used to help students achieve conceptual understanding and procedural fluency.
  – Teachers adopt a variety of instructional methods in order to maximise the classroom learning opportunities.
The four pillars of FL (FLIP)

• Professional educator (P)
  – In flipped learning, professional educators are more important than the instructional videos.
  – They must endeavour to provide individualised support to students at the expense of using direct instruction during class time.
  – The important challenge for educators lies in how they can capitalise on the affordances of the model to enhance student conceptual understanding and procedural fluency (Gojak, 2012).
  – All these call for professional educators to be reflective in their teaching practices.
Advantages of FC

- Make learning central rather than teaching
- Foster independent learning
- Promote peer interaction and collaboration
- Encourage higher student engagement
- Provide personal-wise / group-wise attention, feedback and assistance to students
Dale’s Learning Pyramid Model

If most of your classes are lectures with reading assignments, you’ll need to use additional strategies to retain the information.

Find opportunities to:
- work with tutors
- attend labs
- go to office hours
- create study groups

Source: Edgar Dale (1969), Student Success and Support Program at Sacramento City College
Image extracted from http://www.scc.losrios.edu/successcoaching/strategies/learning-how-to-learn/
Anderson et al.’s Revised Bloom’s Taxonomy

In-class Activities (more student-centred)

Out-of-class Activities (more teacher-centred)

Learning Pyramid Model x Revised Bloom's Taxonomy

Out-of-class Activities

In-class Activities

FC
Three Essential Design Principles for a FC setting

1) Establish Clear Learning Objectives.
   • Aligned with behaviorist learning theory
   • Abcd mnemonic to create specific measurable goals (Schwier, 1998)
   • Based on knowledge taxonomies (e.g. Bloom’s):
     • Levels will range in independent pre-class work:
     • More complex levels (Application, Synthesis, Evaluation) can be developed/reinforced in class with instructor/peer support
     • Stated and reinforced throughout pre-class and in-class stages

2) Choose and Chunk (Appropriate) Course Material.
   • Aligned with cognitivist learning theory, considers cognitive load
   • Integrate a variety of sources & instructional techniques
   • Reduce redundancy (Soloman, 2013)
   • Limit video materials to 10-15 minute segments for easier processing, retention, and review (Rathus, 2013)

3) Support Learning With Scaffolding and Interaction
   • Aligned with constructivist learning theory
   • Increasing complexity with individualized support
   • In-class activities builds upon knowledge gained from pre-class content materials
   • Scaffolding comes through interaction with peers & the instructor

Suggested In-Class Learning Activities

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<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Goal</th>
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<tbody>
<tr>
<td>Think–Pair–Share</td>
<td>Students write or think about a given prompt/question, then share with a partner before sharing aloud</td>
<td>Increase and scaffold student participation</td>
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<tr>
<td>Class discussion</td>
<td>Students discuss class topic in small or large groups</td>
<td>Deepen understanding, share perspectives</td>
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<tr>
<td>Jigsaw Readings</td>
<td>Students are assigned different segments of a particular text to become experts on. They share their understandings of their segment of the text in small groups and learn from peers about other assigned sections.</td>
<td>Reduces cognitive load by chunking reading material; Encourages interaction, participation and accountability for knowledge</td>
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<td>Group work on problem sets</td>
<td>Students work in groups on challenging problem sets</td>
<td>Scaffold understanding through peer interaction and instructor support</td>
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<tr>
<td>Scenario/Lab Activities</td>
<td>Students engage in hands on learning in authentic disciplinary situations</td>
<td>Encourages interaction and conceptual application</td>
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<tr>
<td>Rubric-based feedback</td>
<td>Students receive peer and instructor feedback using rubrics</td>
<td>Students interact with rubric criteria, understand how to improve</td>
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