

FLIPPED CLASSROOM

OVERVIEW:

Instructors across disciplines have looked for ways to promote long-lasting student learning and for approaches that lead to more effective teaching and learning experiences in higher education (Bligh, 2000). One such tactic involves students completing outside-class reading, assignments, and understanding of key content,

hauser, 2011); flipped teaching (e.g., Teo, Tan, Yan, Teo, & Yeo, 2014) and reverse teaching (e.g., Foertsch, Strikwerda, & Litzkow, 2002). We will refer to this teaching and learning method as “flipped classroom”.



“Students’ performance on the final examination significantly improved compared to performance of students the previous year who completed the same module in a traditional classroom setting.” (Pierce, & Fox, 2012)

so instructors can make use of class time with activities that demand the application and deep understanding of the content matter learned by students before class. In other words, content coverage is moved outside the classroom in order to employ in-class time stimulating the upper levels of Bloom’s taxonomy of cognitive skills (Anderson, Krathwohl, & Bloom, 2001; Bloom & Krathwohl, 1984).

The following sections offer a summary of what researchers and instructors across disciplines have reported around the implementation of a flipped classroom in different university-level teaching and learning contexts.

COURSES & STUDENT ENROLMENT:

Instructors have flipped their classrooms in varied topics that include, but are not restricted to, STEM disciplines (engineering, chemistry, calculus, statistics); the arts (visual arts); information systems and computer sciences; architecture; economics; and pharmacy. Reported flipped courses range from 100 to 400 level, mandatory, prerequisite, capstone, or specialization courses. Enrolments also fluctuate between low (20 students) to high (500+ students) and anything in between.

“Students developed a better understanding of the theory underlining the procedures and experienced less anxiety about the complex practical steps and setup, and subsequently, improved work efficiency.” (Teo, Tan, Yan, Teo, & Yeo, 2014)

This teaching method has a long history of implementation in the humanities as students are frequently tasked with reading texts that will prepare them for in-class discussions and other active learning activities. However, across institutions and disciplines, it has received different titles that include: Just-in-Time-Teaching (e.g., Novak et al, 1999); inverted classroom (e.g., Gannod, Burge, & Helmick, 2008; Strayer, 2012); flipped classroom (e.g., Jensen, Kummer, & Godoy, 2015; Smith, 2013; Wilson, 2013); backwards classroom (e.g., Schaff-

“The approach takes advantage of the benefits of both collaborative learning and distance learning while at the same time targeting the millennial student.” (Gannod, Burge, & Helmick, 2008)



PRE CLASS ACTIVITIES:

- Assigned/targeted readings
- Participation in blogs, forums, etc.
- Problem solving/worksheets
- Quiz prep questions
- Tutorials
- Video lectures/screencasts/video podcasts, content and practice/labs

IN CLASS ACTIVE LEARNING:

- Clinical cases
- Discussion/reflection
- Experiments/demonstrations
- Inquiry learning
- Peer assessment/instruction
- Problem solving/worksheets
- Programming/software use
- Quizzes/exams/concept inventories
- Review questions
- Team/group work

EVIDENCE OF IMPACT:

The following are some of the benefits and limitations reported in the flipped classroom literature.

BENEFITS:

- Anytime/multiple access to materials
- Better performance in tests/quizzes/homework
- Better time management
- Enhanced collaboration skills
- Enhanced communication skills
- Existing resources that can be adopted
- Facilitation of problem solving strategies/skills
- Improved understanding of new concepts
- Increased knowledge retention of material
- Increased motivation/engagement towards learning
- Increased practice time
- Increased self-efficacy
- Increased student-instructor interactions
- Larger content coverage
- More opportunities to receive feedback
- Reduced anxiety towards new challenges
- Self-regulated pace/independent learning
- Support of multiple learning/instructional preferences

LIMITATIONS:

- Greater upfront investment for development of resources (e.g., targeted reading, videos, etc.)
- Higher set-up cost
- Increased requirement for self-discipline
- Increased student workload
- Limited opportunity to ask questions during pre-class activities
- Reduced motivation/engagement in class
- Technology challenges (e.g., videos not complete/with errors; not working)

REFERENCES AND RESOURCES:

For a complete list of references and resources, please visit: flexible.learning.ubc.ca/flipped-references

