After the summer holidays, I decided that I would make the flipped classroom approach work. I’m grateful that the class was designed like this, because I feel like it has actually helped me learn how to study properly. I feel like I’m accumulating knowledge instead of it feeling like fluff.

Student expectations should be clear and set-up front. It is important to persevere – students are initially resistant and the first weeks are difficult. The real rewards come at the end of the semester.

Students appreciate a variety of different learning activities. “I think it covers so many different learning styles which is why it’s so successful.”

Students are willing to put in extra work if they can see the benefits. “I was happy to put in the extra hours when ... I could learn at my own pace.”

Flipping a unit is daunting and hard work, BUT, it’s worth it!

“Tried to cram ... I guess I wasn’t anticipating how effective the flipped stuff would be!”

What we learnt:

- Student expectations should be clear and set up front.
- It is important to persevere – students are initially resistant and the first weeks are difficult. The real rewards come at the end of the semester.
- Students appreciate a variety of different learning activities
  - “I think it covers so many different learning styles which is why it’s so successful.”
- Students are willing to put in extra work if they can see the benefits.
  - “I was happy to put in the extra hours when I could learn at my own pace.”
- Flipping a unit is daunting and hard work, but it’s worth it!
  - “I didn’t have to cram ... I guess I wasn’t anticipating how effective the flipped stuff would be.”

Acknowledgements:

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We are also most appreciative of the ongoing support/mentorship provided by Kerry Hood and Loretta Garvey and Tim Hsu and the team at the Monash Teaching Resource Support Unit.

Research study

- Surveys administered at start of semester 1 and conclusion of semester 1 and 2. Students contributed to reflective journals and focus groups.

Outcomes

- Flipped pedagogy allowed educators to scaffold student learning
  - “I’m grateful the class was designed like this, because I feel like it has actually helped me learn how to study properly. I feel like I’m accumulating knowledge instead of it feeling like fluff.”

- Flipped pedagogy improved student understanding (in-class discussions, assignments and exam performance)

- Flipped pedagogy decreased the achievement gap traditionally associated with diverse levels of academic preparedness and interest in science

- Students were initially resistant to approach. By end of semester, their opinions had changed.
  - I thought my opinion had changed. When the class structure was first announced, I was dreading it, as I have completed a previous degree by doing the bare minimum each week, then cramming for exams. Last module I accepted that it was probably a good idea that ... now I’m grateful the class was designed like this.

- Generation of strong student advocates for this style of learning

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Students

- Workshops (2hrs) to explore/extend understanding
  - “Any time you have to teach others ... it forces you to learn even better."
  - Group scratch cards to assess understanding and promote preparation for class
    - “I always felt motivated, like I cannot let my team down”
  - Hands-on, student-centred activities (models, slowmotion, craft, simulations)
    - “The online lesson takes an hour, and I think I get it. Then I get 10 mins with the models ... and it’s like 'Oh, yeah, that cemented everything!”"

- Video (“10 mins interspersed with conversational text & MCQs
  - “We’re learning at our own pace. It’s better doing it like this instead of in the lecture ... this way everyone can actually contribute and understand.”

- Moodle lesson takes ~ 2 - 3 hours
  - Completion required as ticket entry to workshop (97.2% completion)
    - “I like how they made you do the Moodle lessons before you could go into the workshop ... it wasn’t compulsory I feel like I might not do them myself”.}

- For more information, see poster “Encouraging Student Engagement in Pre-work” (K Carroll)
  - We teach 1st year bioscience to Allied Health
    - By nature, bioscience units are content heavy
    - Our previous units:
      - 3 lectures and 1 tutorial weekly and 1 prac fortnightly
      - Achieved high SETUs but difficult to engage students
    - When provided with an opportunity to develop 2 new bioscience units for BHealthSci, we flipped the classroom

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Tutorials (2hrs)

- Aimed at applying and starting to consolidate understanding
- Variety of learning activities
  - Case studies, think-pair-share, group presentations, song/raps, debates, puzzles, games, crosswords
- Students reflect on gaps in learning at end of lesson
  - Submit a feedback form which is used as basis of feedback lecture

- Important to close the loop (consolidate student understanding)
- Post-class feedback lecture – based on areas that students identify as difficult
  - “After our feedback lecture, everything made sense. It allowed me to confirm what I thought I knew but also look at what I was struggling with. Things that seemed difficult in the workshops and tutorials suddenly seemed easy.”
- Formative MCQs available on Moodle
- Assignments to encourage application of content knowledge and reflection

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