It helps to listen to the students!

Redesigning a large first year course to support self-regulated learning expertise
or How a SEED grant helped a first-year course survive lockdown.

"The happy combination of fortuitous circumstances." ~ Walter Scott

Mandy Harper, Tony Hickey and Jenn Jury
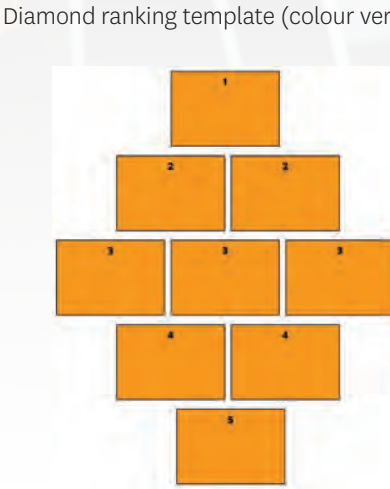(School of Biological Sciences)

Context

- Curriculum review of BIOSCI 101 as part of new BSc structure
- Reorganisation of discipline content allowed reduction in overall content for the BIOSCI 101 course as adjustment was required to manage workload to enable deeper learning approaches by students.
- Teaching practice and pedagogy aligned with new BSc graduate profile and designed to complement other core courses in first year of biological sciences major.
- BIOSCI 101 included capability 5) Independence and Integrity:
  "Graduates are expected to be able to learn and work autonomously and ethically. They are expected to be lifelong learners, to show resilience, proactivity and an ability to make principled decisions in academic and professional spheres."
- Capability 5 is important to enable students learning within a large class where there is limited access for face to face instruction to help individuals manage gaps in their knowledge and understanding.

Theoretical Framework
(Zimmerman & Moylan 2009

The course redesign was informed by education theory frameworks of feedback use and self-regulated learning.

Focus Group Design

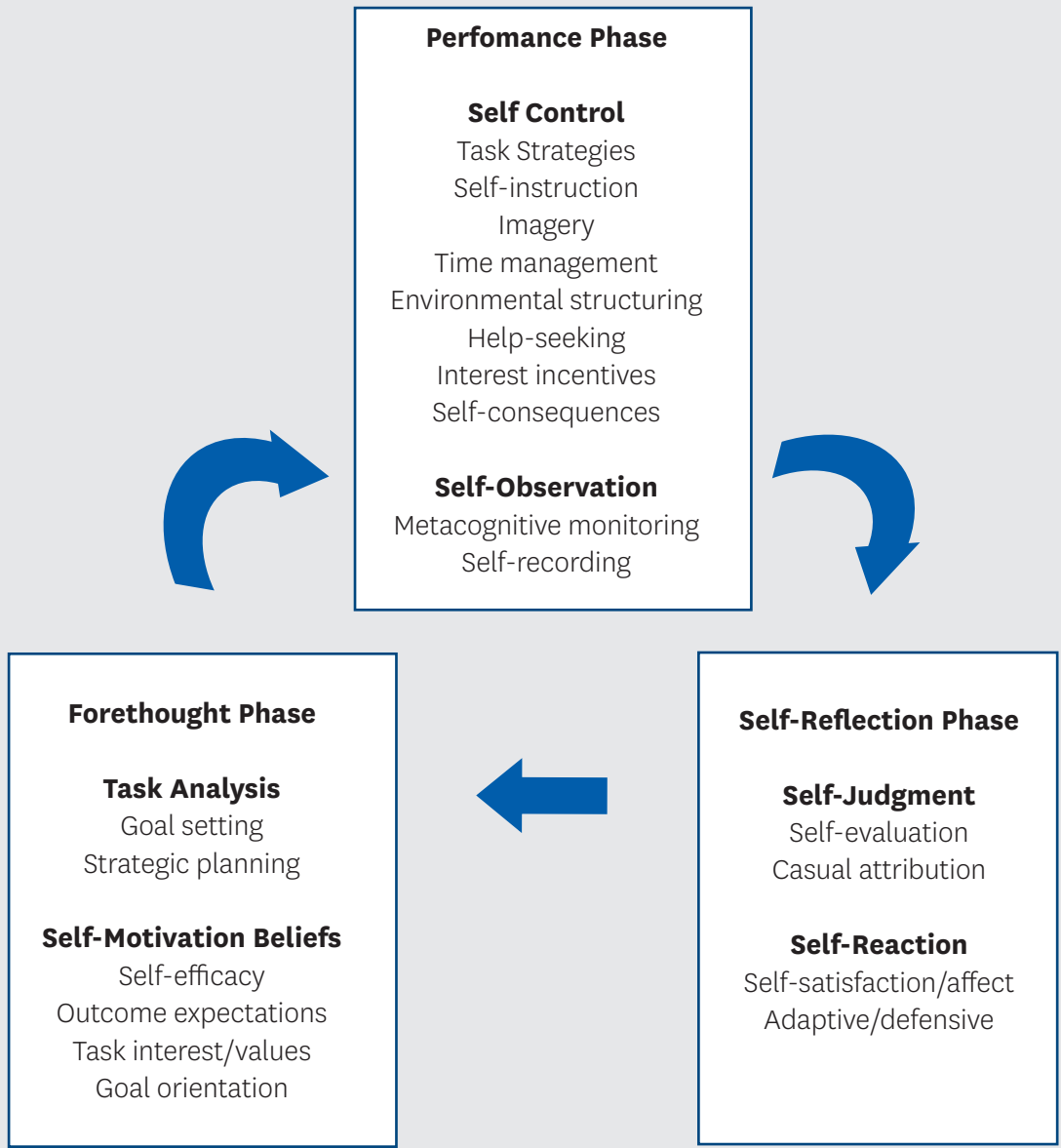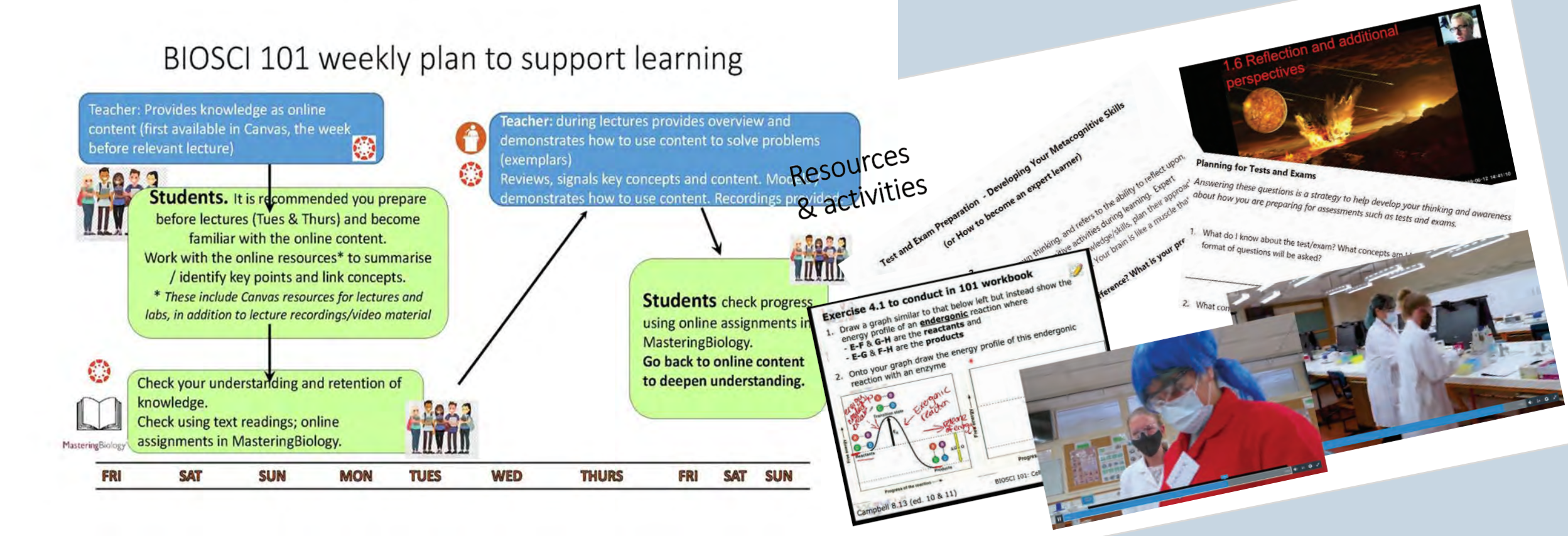Diamond ranking exercise to promote discussion of SRL.

SRL skills
Focus group discussions

Learning behaviours	Degree of importance (highest to lowest).
Active reappraisal or transformation of notes	1
Attention control	2
Self-motivation	3
Planning	4
Self-evaluation	5
Goal setting	6
Seeking help from people	7
Metacognition	8
Seeking information	9
Monitoring progress	10
Learning strategies	11

Embedding metacognition and learning strategies into course design encourages self-regulation behaviour in first year students

BIOSCI 101 weekly plan to support learning

Project summary

- Plan and implement intervention to enhance course design to encourage self-regulation behaviours by supporting feedback use and the development of metacognition
- Build appropriate resources and activities
- Student to teacher feedback
  - Survey students and conduct focus groups
- Iterative process – findings from student feedback incorporated into course design elements.

Initial course redesign

The project was focussed on bringing more directive type of feedback (Feedforward) into the learning environment. By addressing the differences between teachers and student views on feedback purpose and style, relevant and appro- priate feedback type were made available for students to use in a blended learning environment.

Students' decisions on using various feedback types was supported by explicitly embedding metacognitive skills in the course design so students could recognise / identify the type of feedback they needed. E.g., specific video resources for access to tacit knowledge; exemplars / demonstrations to provide feedback about processes for problem solving.

Note: Metacognition refers to learning capabilities. It is often referred to as metacognitive capabilities which includes our self- knowledge about our learning abilities and the related skills.

Student feedback about design

"helpful to get underway and not procrastinate"
"takes time to get into the rhythm – challenging to begin with"
"able to be sure that covering all course work"
"good to have this structure when thrown into lockdown"
"transferred learning approach to other courses"
"overwhelming to have so many resources – had to learn to prioritise which ones were necessary for individual situation"
" as progressed there was a sense of achievement which was rewarding"
"helped managed sense of being time poor"
"the structure gave a sense of being same as rest of class" (offshore students

Metacognitive awareness

"knowing more strategies is helpful – some are challenging but aware they are important and make a difference"
"having strategies helps motivation and gives a sense of control"
"learning to reflect and do self-questions helped to focus learning"
"being able to check understanding is important at uni"
"having an awareness about what works for my learning is helpful"
"the focus on content decreases value of other skills in learning such as knowing how to use and apply knowledge"
" working with other people enriches learning"
"accessing teachers' knowledge in videos is helpful as there is shame or embarrassment around asking questions or getting help"
"developing learning strategies takes time but helps avoid backlog of learning content"
"some resources enabled deeper understanding and gave a sense of satisfaction"
" preferable to be working with other students face to face to develop learning strategies"

Future proofing: Learning skills are important for graduates transitioning to the workplace

Self-regulated learning expertise is a key requirement for career and related job skills in this disruptive technological phase of work and its future (Turner, 2011).

Fontana, Milligan, Littlejohn, and Margaryan (2015) reported a recent change in perspective for organizational hiring practices as they began to recognise the candidates' additional skills and as a result additional learning needed to occur within the workplace.