Scaffolding the writing process in a large first year science class

Lisa Emerson
Sharon Stevens
John Muirhead

School of English and Media Studies
Massey University
Context of the study

• First year paper: Communication in the Sciences
• 700 students across three campuses and extramural
• Compulsory for BSc, BApplSci, BMLS, Vet nurses
• Majors as diverse as sports science, psychology, physics, information science
Course info

• Driven by both a *writing to learn* and *learning to write* pedagogy.

• Key objectives are related to teaching information literacy, secondary source usage and a writing process appropriate to the sciences.

• To this end, lectures, workshops, and interactive web resources plus a study guide focus on these skills.
Despite this…

- A problem with effective writing process, information quality and plagiarism emerged in this class.
- A survey of students showed that they had an insufficient understanding of plagiarism
- New materials and the introduction of Turnitin as a teaching tool were put in place to address the immediate problem
However…

• Our main focus was to consider how we might more effectively turn around the class’s attitude to the writing process and information literacy.
Scaffolding the writing process

• Used action research
• Three cycles of research
• Aimed to evaluate the process from a range of perspective: paper coordinator, tutors, students, peers
• Data collection included two student surveys, student logs, student interviews, tutor interviews and notes, journals and student assignments
Writing to learn

• Writing to learn already a key pedagogical principle in all classes (lectures and workshops)
• In-class writing included as a low-stakes strategy to encourage reluctant or unskilled writers
• However, writing exercises not directly and explicitly related to assessment
The scaffold: The stepped imap

- Imap (information map): Walden and Peacock
- For students: a way of engaging with information literacy and writing process
- For tutors: immediacy as a way of assessing information quality and process
- May be particularly suited to science students (visual and kinesthetic learners)
The stepped imap ....

Stepped as follows:
• Week 2: students brainstorm prior knowledge
• Week 3: write key words, search strategy and notes on search
• Week 4: shape topic as question and consider subsidiary questions. Compilation of annotated bibliographies
• Week 5 drafting essay: keep log of process
• Produce imap on the basis of these writing exercises.
The scaffold: Peer review and tutor review

• Semi-directed peer review: aim to provide feedback to the author and critiquing skills to reviewer.
• Guided tutor review: both imap and assignments
• Students write response to both reviews and revise.
• Assignment submission: included peer and tutor reviews and response sheets
Implementation

- Three semesters
- Gathered research
- Just in the process of analysing the data: this is a work in progress!
Peer and tutor review

- Tutor review has had a significant effect on reducing plagiarism.
- Students and tutor strongly supportive of tutor review
- Some issues around the purpose of the tutor review and management of feedback
- Peer review not always seen as valuable by students due to competency of reviewer
Imap

- The imap has changed over the three semesters
- Initially very few directions and no models
- Student evaluations negative about lack of direction
- Tutor pressure to provide more detailed marking schedule and direction plus models
Imap cont...

- Provided students with detailed requirements of what must be included (written by tutors)
- Tutors collected models to share with classes
- Still highlighted the value of creativity and the accuracy of representing the writing process
Imap cont...

- Imap now used in all assessment (including group work)
- Students see it as valuable although some students suggest a log would be just as effective
- Visual seen as a strong component by others
- Strongly valued by all tutors
- Students report that they would use an informal imap for other classes
Where to from here?

• We are trialling imap-type assessment in other classes.
• Academic writing paper: writer’s notebook plus visual component
• Travel writing paper: used to locate the author’s voice and subject position in relation to other agents.
• Hope to develop comparative study