Reflecting on Environment and Sustainability:
The role of reflective diaries for enhancing course development and student learning

Teaching Innovation Project 2009-10

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Background: Environment & Sustainability

- A new BSc programme started in 2009
- Intake of 11 students with range of interests and backgrounds
- Curriculum largely made up of existing modules across three faculties
- A ‘bespoke’ intro module at level 1 which introduces key theme of interdisciplinarity
- Two course directors who co-teach intro module
Two goals/challenges

- Interdisciplinary learning
- Reflective learning

This project was inspired by our own desire to learn ‘how to’ and ‘what works’ in the teaching of a new interdisciplinary course.
Interdisciplinary learning (IDL)

- ‘Integration of multidisciplinary knowledge across a central theme or focus’ (Ivanitskaya et al. 2002:95)
- Proximate and non-proximate inter-discipinarity (our course is non-prox)
- Among key themes in IDL literature are
  - personalization of learning
  - transition and maturation process
Interdisciplinary learning (IDL)

- Transition to IDL requires support in early stages
- Build on prior tacit knowledge in order to build learner’s confidence
- Challenge lies in overcoming disciplinary cultures and enabling learners to accept different views of ‘the truth’
- IDL has to be made explicit for success
'It is both within the process and product of the curriculum, and from the very beginning (i.e., induction) that the nature, value and necessity of interdisciplinarity need to be made implicit and explicit. The approach needs to be overt, covert and integrated in order to be successful’ (Dalrymple and Miller 2006:30).
Reflective thinking and learning

- ‘Process of internally examining and exploring an issue of concern... which creates and clarifies meaning in terms of self and which results in a changed conceptual perspective’ (Boyd and Fales 1983)

- Is ‘...troublesome because it involves overcoming the inertia that inclines one to accept suggestions at face value;... willingness to endure a condition of mental unrest’ (Dewey 1910:13)

- Requires mentoring and systematic self-analysis through writing (Zubizarreta 2009)
Reflective portfolios and diaries

- Increasingly used in higher education to achieve a number of learning and teaching outcomes.
- Innovative way to help students assess their own growth and development as university-level learners.
  - Allow teachers to reflect on the strengths and weaknesses of their modules.
  - Reading student reflections can help teachers to understand the struggles and successes students are having with different aspects of the curriculum and to gain an appreciation of student attitudes and feelings.
Our project research questions

- How can a reflective diary (RD) assessment help student learning in a highly interdisciplinary degree course?
- How can an RD assessment contribute to the on-going development of a new and innovative course?
- What strategies can be adopted to enhance the effectiveness of using a RD for student learning across an interdisciplinary course?
Method & process

- Design of the RD assessment
- Students given workshop and template
- Generic and topic-specific questions
- Formative feedback week 5-6
- Submit for mark at end of semester 1
- Questionnaire and focus group 1 (Dec)
- Questionnaire and focus group 2 (March)
- ‘Reflect on your reflection’
Findings 1: Students

- Improved writing skills
- Transition and ‘learning to learn’ (e.g., time management, revision)
- Accepting/responding to feedback
- Pastoral support and coaching
- Making connections (interdisciplinarity)
- Reviewing expectations backwards and forwards (e.g., career plans)
‘...from doing this exercise, I have the ability to think more broadly and try to tie things up. It’s just less substantial when you’re not writing it down and really thinking about it and putting it into words and concepts. Writing it down really made an emphasis on everything.’

‘...really engaging with the subject material and having to write cohesive responses really helps you to understand it. I often found that I made connections and had inspirational ideas as I was writing and reflecting’. 
‘I think it’s rather easy to link natural subjects to other natural subjects and equally social to social, but I think linking across social to natural, that was quite difficult but ... I think we achieved that towards the end and they [the RD] did actually help a lot.’

‘...useful to enable us to link key inter-modular themes and give us the chance to remind ourselves how each topic could be relevant.’

‘I think I’ve acknowledged the link between the natural and social sciences more because, at first, I used to see them as that’s over there and that’s over there, whereas now I see them as blurred in the middle.’

‘...[the RD helped by] bringing other module materials into the forefront of my mind at any one time to make relevant connections.’
‘As I was reading it, it said I wanted to be a park ranger or something, but I feel that...might be a waste of three years of this... I’m not sure, but I see my opinion has changed since the beginning.’

‘For me as well. At first I wanted to go straight to a typical job, straight from uni... but now, part of me wants to learn more, learn to a greater depth what we’ve been learning already.’

‘I don’t feel I can go into a standard job...I feel I have to make a difference somehow and go and do something that’s going to benefit someone, somewhere, somehow. Before, I think I would have been happy bumming around and not doing much with my life, but now...’
Findings 2: Course directors

- Affirmation of course aims/design
- Continuous evaluation through written ‘conversation’ with students
- ‘Check in’ with student expectations, perceptions and intellectual development
- Discussion of our own reflections
- Opportunity for interdisciplinary work and work on interdisciplinarity
Strategies for improvement

- Tighten up deadlines and monitoring
- Better incorporate reflections into seminars
- Read examples of reflective writing from within the environmental field (e.g., Leopold’s *Sand County Almanac*, Thoreau’s *Waldon*)
- Incorporate semester 2 reflection in assessment
- Increase weighting to reflect effort required
- Make use of this cohort’s learning as examples for next (peer mentoring)
- Consider e-journals and different formats
Next steps…

- Higher Education Academy ESD grant: ‘Making the transition to interdisciplinarity: effective strategies for early student support’
- Peer-reviewed journal article for *International Journal of Sustainability in Higher Education*
- Plans for longitudinal research
References


Written report to follow…

Please contact Sherilyn MacGregor for further information or a copy of the report.

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