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WAVES OF REFLECTION: SEEING KNOWLEDGES IN ACADEMIC WRITING

INTRODUCTION

Reflective writing is emerging as an increasingly common assessment type in higher education. Assignments of this kind may prove challenging for students, particularly in later stages of an academic degree where, e.g., essay writing may have been the norm up to that point. Scaffolding students from mere recognition of what might be required (e.g., via marking criteria and task rubrics) towards the realisation of disciplinary expectations in their writing is one of the key functions of EAP practitioners. This paper discusses an ongoing endeavour to facilitate such a shift for reflective writing with fourth-year integrated Masters students of anthropology. The principal contribution to EAP practice of the teaching intervention reported is a pedagogical toolkit that enables students to visualise the selection and arrangement of knowledge through a piece of academic writing. This tool enacts for classroom practice the concepts of *semantic gravity* and *semantic gravity waves* (Maton, 2013; 2014), extending components of an increasingly influential framework in the sociology of education: Legitimation Code Theory.

REFLECTIVE WRITING – LOOKING FOR A TOOLKIT

Reflective writing assignments across departments at Durham University tend to be assessment tasks for modules linked to real or imagined work placements. Assignments are therefore based primarily on personal experience, may take a diary-type form (at least initially) and may require the student writer to reflect on past, present and/or future events, often as the basis for real or imagined future action. Nesi and Gardner characterise this kind of writing broadly as a *narrative recount* (2012, p. 219*ff*), grouping these assessments with similar forms of writing such as biographies and urban ethnography. They note that reflective assignments occur across all undergraduate years and at Master's level, but are most prevalent at final-year undergraduate level. This perhaps reflects the focus on employability-oriented skills development, and is the intention of such modules at Durham.

Writing of this kind can differ quite markedly from essayist-type writing (Lillis, 2001). Reflective assignments tend to require an explicitly personal and emotional voice, contrasting sharply with the explicitness of argument development and logic in the service of 'academic truth' characteristic of essay writing (Lillis, 2001, p. 81). Students at Durham University must compose informal reflections on lived experience, also often needing to weave in reference to academic reading. Perhaps unsurprisingly, therefore, the

linguistic characteristics of this form of writing tend to be unlike most other genres of academic writing (Nesi & Gardner 2012, p. 236–237). In looking to move from research insights to pedagogical practice, however, the corpus descriptions and patterns do little more than reinforce an intuitive sense of what reflective writing might look like in an academic context. Beyond short exemplars of reflective-type writing, they do not provide EAP practitioners with tools for practice.

In the broader literature on developing reflective practice and writing in higher education, a number of frameworks draw on Schön's work on the 'reflective practitioner' (1983) or on Gibbs' (1988) reflective cycle. One example is the 5R framework proposed by Bain, Ballantyne, Mills, and Lester (2002), where each 'R' represents a different level of reflection, depending on the nature of the problem, task or desired outcome. In an educational context, students might be scaffolded through successive stages of *Reporting, Responding, Relating, Reasoning*, and *Reconstructing* on the way to higher levels of cognitive challenge and engagement. Given reported student difficulty with distinguishing 'reporting' from 'responding', Ryan and Ryan (2013) conflate these first two levels to offer a 4R model. This was the model I drew on for the intervention reported below.

Frameworks such as these focus on the ways that reflective practice can have a transformative impact (e.g., Kalantzis & Cope, 2008; Mezirow, 2006). It is the purposeful reflection in the service of personal change that distinguishes academic from 'everyday' reflection (Moon, 2006). However, in looking for tools that can make the valued practices more explicit and achievable, this work does not provide students with concrete ways of enacting this knowledge transformation in their writing. Existing approaches in EAP can help students see linguistic and textual patterns, but they do not offer a means for seeing distinctions in content or knowledge. New tools are needed.

LEGITIMATION CODE THEORY AND 'SEMANTIC GRAVITY'

Legitimation Code Theory (LCT) is a multidimensional toolkit that builds on, *inter alia*, the work of Basil Bernstein and Pierre Bourdieu. LCT takes the social-realist position that knowledge is both socially produced and *real*, in the sense that forms of knowledge have effects that can be seen and explored. This has enabled the study of knowledge itself and how it is structured and developed across fields of practice and over time. The LCT concept drawn on here is that of *semantic gravity*: the extent to which knowledge practices are related to their social or symbolic context of acquisition or use (Maton, 2014, p. 110). This concept forms one component of Semantics, a dimension of LCT developed to conceptualise and empirically explore the ways in which knowledge is built by actors in social contexts, and how it may be developed and transformed over time (e.g., Maton, 2011; 2014).

Semantic gravity (SG) can be traced as continua of relative strengths, from weaker (SG–) to stronger (SG+) 'with infinite capacity for gradation' (Maton, 2014, p. 131). The

stronger the gravity, the more meaning is dependent on its context; the weaker the gravity, the less dependent meaning is on its context. For example, mention in a student essay of 'cutting down trees in the Amazon' exhibits stronger semantic gravity than a reference elsewhere to 'deforestation'. Viewed *across* the text, a movement from the more concrete ('cutting down trees') to the more abstract ('deforestation') is an instance of weakening semantic gravity (SG↓); introducing the more abstract term first and then defining or illustrating it is an instance of strengthening semantic gravity (SG↑). The concept thus also enables *profiling* of meaning-making over time – in texts or, e.g., in classroom practice or the historical development of a discipline. Semantic gravity has been used as an analytical tool in a wide range of contexts, from secondary school teacher training (MacNaught et al., 2013) and problem solving in engineering (Wolff & Luckett, 2013) to freemasonry (Poulet, 2016) and political discourse in the South African parliament (Siebörger & Adendorff, 2015). There are also a growing number of teacher-practitioners recontextualising LCT Semantics to enhance their work with students (e.g., Blackie, 2014; Szenes et al., 2015), academic staff (e.g., Clarence, 2015) and teachers of EAP (Kirk, 2015).

Figure 1 represents three notional *semantic gravity profiles*: a *high gravity flatline* (A1), a *low gravity flatline* (A2) and a *semantic gravity wave* (B). Empirical research into, for instance, student writing is suggesting that higher-achieving work across subject areas is structured into such waves of recurrent *semantic shifts* between more concrete and more abstract meanings (e.g., Maton, 2013; Maton, 2014). In contrast, writing that 'flatlines', e.g., by remaining confined to anecdotal examples (profile A2) or to abstractions (profile A1), has been shown not to be rewarded in the same way. Looking to the *semantic range* between highest and lowest strengths may also be important in understanding educational achievement, since particular disciplines or tutors may require that certain *semantic thresholds* be reached (Maton 2013, p. 19).
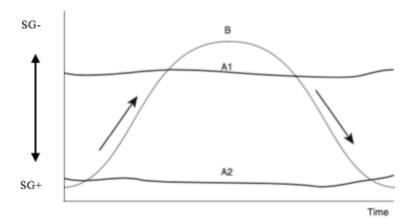

Figure 1 Three illustrative semantic gravity profiles (adapted from Maton, 2014, p. 143)

The empirical form taken by semantic gravity depends on how the concept is enacted for practice. In my teaching intervention, this was realised as relative strengths of context-

dependent meanings in anthropology student writing. A recount of personal experience, for instance, was seen as exhibiting stronger gravity; drawing on theoretical concepts from course reading was seen as exhibiting weaker gravity. Extending work that has also used Semantics for student disciplinary learning (Szenes et al., 2015), I divided the SG+/SG– continuum into three 'sections', introducing a heuristic mid-level. This level represents meanings which *generalise* over specific episodes or illustrations but which are not entirely abstracted from a contextual base. Represented in Figure 2, this small but important innovation developed from working to enact semantic gravity for the classroom in a way that would retain conceptual integrity, while also being practically useful for students. Drawn in class as a four-line 'stave diagram', the sectioning serves two pedagogical purposes. Firstly, it enables heuristic identifying and 'categorising' of different forms of knowledge with students, without losing sight of there being a continuum. Secondly, it captures the semantic range within which generalisations over experience occur, e.g., 'leadership', 'teamwork' or 'confidence'. It is these such insights that students must identify and reflect upon through their writing.
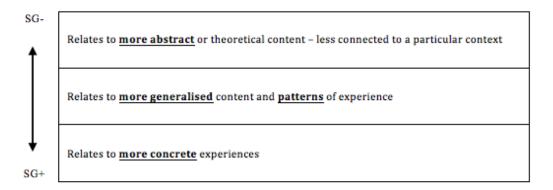

Figure 2 Heuristic sectioning of the semantic gravity continuum

Crucially, however, identifying only skills or insights from personal experience may be insufficient for obtaining higher grades. Semantic gravity provides a means of articulating why this is the case, since such generalised meanings remain anchored to a real-world context: gravity remains relatively strong. It is pushing interpretations of personal experience higher, further weakening semantic gravity, e.g., via engagement with academic theory, that may be needed in many disciplines to access higher grades. This is not simply a tick-box requirement: it may be that this higher threshold must be reached for personal change to occur. By engaging with *uncommonsense* knowledge (Bernstein, 2000), using academic concepts or theory as lenses through which to re-view and reassess experience, students can genuinely transform their understanding of a critical incident or pattern of experience, enabling new understandings and the potential for new or revised future action.

PEDAGOGICAL INTERVENTION

The integrated Masters module *Anthropology and Professional Practice* was first run at Durham University in 2013/14. Average cohort size is around 10–12 students, with a mix of home and international students. Summative requirements include evidence of job searches, a CV and a cover letter for a workplace or research post. Forty per cent of the grade is allocated to a 2000-word reflective statement that must summarise key knowledge and skills gained from students' undergraduate study, and suggest how these might prepare them for a future workplace context. Students draw experience for this statement from a personal reflective log, which they keep throughout the module. Evidence suggests this kind of task may well be a common feature across disciplines and across institutions (Nesi & Gardner, 2012, p. 221).

Given concerns about students' reaction to and handling of an unfamiliar form of assessed writing in their final year, the module lecturer approached the University English Language Centre and a two-hour introductory session was agreed to supplement existing module provision. Early planning drew on course documents and insights from the module leader, who sat in on the session and provided insights for discipline-specific student questions. In the class, participants were introduced to a version of Ryan and Ryan's 4R model (2013) as a basic structural template for section writing, but most attention was focused on how different *forms* of knowledge can be woven together in a piece of academic reflective writing. Drawing tacitly on semantic gravity throughout (see below), we then explored how students could act on this awareness during their reflective log keeping and assignment drafting.

In the first iteration of the session (2013/14) there were no exemplars of anthropology student writing to work with, so participants worked with a short sample model of reflective writing drawn from the British Academic Written English (BAWE) Corpus (Nesi & Gardner, 2012, p. 224). In the second iteration (2014/15) we were able to work with student writing from the previous cohort. One example of higher-scoring work that I explored with students appears below.

> *Sanctions were imposed in February 2014 by Applegate Jobcentre on a seasonal ex-employee of mine who is currently unemployed. […] I acted as a mediator and negotiator between my colleague and the Department for Work and Pensions. Before studying anthropology, I would have felt and believed that the advisor who imposed sanctions was prejudiced towards the unemployed. Now, I look through a theoretical lens to understand everyday events and practices. I abstracted the concept of structural violence (Das et al., 2000; Galtung, 1999; Farmer, 2004) enforced by government policy and its institutions to explore how political, economic and cultural structures result in the occurrence of avoidable violence often seen within human rights and the deprivation of basic human needs. The jobcentre advisor is simply an agent authorised by the*

> *state to impose sanctions and reduce Britain's annual benefit spending through the coalition government's welfare reform policy.*
>
> *I offered to help my past colleague by writing letters of appeal and speaking on his behalf. Having learned through study to write descriptively and critically, and to understand government policies, a successful outcome was applied and his jobseekers allowance was reinstated after four weeks. […] Using my new skills and drawing on my fieldwork experiences […] has enhanced my understanding of theory, concepts and subject-specific knowledge. I now feel confident and experienced for a career in the international job market rather than in Moorsby.*

(Author data. Place names changed to preserve anonymity.)

Built up on the whiteboard as a series of gravity waves, represented in Figure 3, students saw how the writer's selection and sequencing of reflections and insights could be visualised as movements between relatively context-dependent meanings ('sanctions…in February 2014') through more generalised and abstracted meanings less dependent on a particular context (e.g., 'structural violence'), to recontextualised understandings that 'wave down' again towards more context-dependent meanings ('I offered to help…'). The extract ends by then 'waving back up', to comment on the increased confidence gained through the chosen critical incident. Tracing the peaks and troughs of the waves was achieved together by agreeing, for instance, 'how abstract' (SG–) or 'how close to a personal experience' (SG+) different stretches of text were.
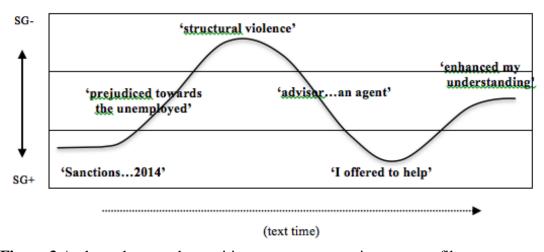

Figure 3 Anthropology student writing extract as a gravity wave profile

Enacting LCT concepts for the EAP classroom in this way, I chose not to use the terms 'semantic(s)' or 'gravity', to avoid unnecessary unpacking of technical terms and potential student confusion. Instead, my *language of enactment* (Maton, 2014, p. 209) recast SG+ as 'closer to experience' or 'more concrete', and SG– as 'more abstract/theoretical'. I labelled the sections on the vertical semantic continuum as

'experience', 'patterns/generalisations' and 'concepts/theory'. To enable students to begin appropriating and applying the tools for themselves, I then elicited examples of anthropology programme experience (e.g., 'lectures'; 'presentations'; 'fieldwork'). Students decided on skills gained through this experience (SG↓ – e.g., 'public speaking'), identified possible theories that might be used to reinterpret this experience (further SG↓ – e.g., 'essence of communication'), and then discussed the possible relevance of these insights for future practice (SG↑). Figure 4 below shows the whiteboard sketch we ended up with.
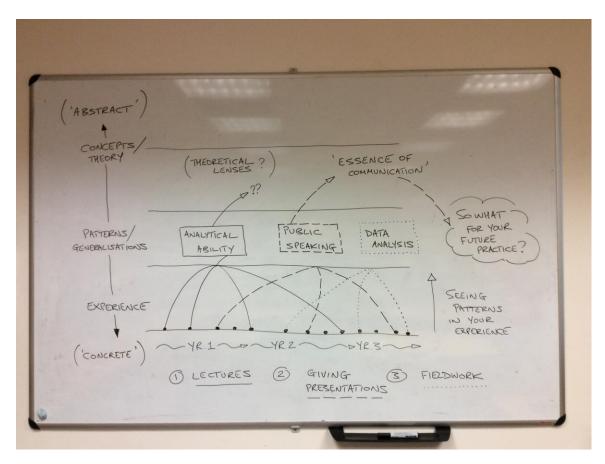

Figure 4 Whiteboard sketch: semantic gravity waving with students

Having established a shared metalanguage with participants, the 'meaning profiles' of higher- and lower-achieving work were then compared, drawing some inspiration from the research methodology proposed by Tribble and Wingate (2013) for learning from student writing. Students identified for themselves the 'low flatlining' that resulted from writing too anecdotally. Similarly, they became aware of how familiarity with more theoretical essay writing might lead them inadvertently to 'high flatlining'. Through profiling, class discussion and later examining of the marking criteria, students recognised that the valued practice is not writing at one level or another, but, rather, demonstrating the knowledge-transforming movements up *and* down between these levels. Maton conjectures that it is these waves of increasing and decreasing semantic

gravity that enable cumulative knowledge building and knowledge transfer (Maton, 2013; 2014). This may be why reflective practice and writing can be a potentially powerful form of learning *through* assessment in higher education.

IMPACTS AND IMPLICATIONS

The impact of the interventions has been highly positive. The lecturer reported students immediately reworking drafts after attending the session, armed with a practical means of reanalysing their own writing. An additional, unforeseen benefit was the effect on subsequent tutorials, where assignment drafts were discussed. The module leader found that the new, shared metalanguage enabled focused conversations about what needed to change in students' writing:

> *I'm just giving formative feedback on the reflective overviews and the 'wave' analogy has been utterly invaluable. Thank you. I have seen several pennies drop over the past few days when I've pointed out an experience flatline or a theory flatline and they go 'ohhh yeeess!!'.*

> *It has been an incredibly useful conceptual model.*

Students also fed back very positively. One participant from the second iteration of the session commented:

> *I liked that there was something visual as I find this much easier to process and understand. I think it has provided a clear way in which I can structure my paragraphs/themes.*

Insightfully, another wrote:

> *It was very helpful having the three levels described visually, it made it much easier to understand. I particularly liked that the waves can depict these levels on a continuous scale, so you can easily visual [sic] that something is a low level of theoretical analysis, for example, rather than simply 1,2,3.*

Students understanding that there can be differing *degrees* of theoretical analysis is an illustration of the practical yet conceptually rich insights made possible through the approach outlined above. Students also commented on reading more in preparation for the assignment than they had done previously. Asked what had been most beneficial, one participant wrote:

> *Knowing the extent to which anthropological theory needs to be addressed and intertwined with personal experience.*

Semantic gravity profiling enables students literally to *see* what is valued and required in an unfamiliar writing form. This recontextualising of LCT concepts into teaching is transforming how reflective writing is introduced and scaffolded more widely at Durham University. The approach has been replicated to develop similar sessions for students in applied linguistics, biology, criminology, psychology and sport. It also has much broader relevance for EAP writing pedagogy, given that the analysis and approach can be enacted for *any* genre or text-type. We are beginning to explore the possibilities in our summer pre-sessional materials.

While the context discussed here is perhaps not representative of a 'typical' EAP class, the mixing of home and international students is becoming increasingly common – at Durham University and elsewhere – as recognition grows that academic discourse is nobody's first language (Bourdieu & Passeron, 1994, p. 8). The potential of the approach is arguably all the more significant by having relevance for *all* students across the university, something being called for more widely in the literature (e.g., Wingate, 2015). Applications and enactments of LCT for EAP are in their infancy, but several research projects are under way[1]. By offering ways to conceptualise and make visible educational knowledge practices for researchers, teachers and learners, LCT is likely soon to figure more prominently in EAP-oriented research and pedagogical practice.

REFERENCES

Bain, J.D., Ballantyne, R., Mills, C., & Lester, N.C. (2002). *Reflecting on practice: Student teachers' perspectives*. Flaxton, ND: Post Pressed.

Bernstein, B. (2000). *Pedagogy, symbolic control and identity: Theory, research, critique*. Revised edition. Oxford: Rowman & Littlefield.

Blackie, M. (2014). Creating semantic waves: Using Legitimation Code Theory as a tool to aid the teaching of chemistry. *Chemistry Education Research and Practice, 15*, 462–9.

Bourdieu, P., & Passeron, J. C. (1994 [1965]). Introduction: Language and the relationship to language in the teaching situation. In P. Bourdieu, J.-C. Passeron & M. de Saint Martin (Eds.), *Academic discourse* (pp. 1–34). Cambridge: Polity Press.

Clarence, S. (2015). Exploring the nature of disciplinary teaching and learning using Legitimation Code Theory Semantics. *Teaching in Higher Education*, http://dx.doi.org/10.1080/13562517.2015.1115972.

Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. Further Education Unit. Oxford: Oxford Polytechnic..

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[1] My own doctorate is one example. I use LCT to explore relations between the potential and the enacted curriculum in EAP teaching practice.

Kalantzis, M., & Cope, B. (2008). *New learning: Elements of a science of education*. Cambridge: Cambridge University Press.

Kirk, S. (2015). Waving across fields of practice: Three tales of Semantics. Unpublished conference paper. Legitimation Code Theory Colloquium 1 (LCTC-1), Cape Town, South Africa, 17–19 June 2015.

Lillis, T. M. (2001). *Student writing: Access, regulation, desire*. London: Routledge.

Macnaught, L., Maton, K., Martin, J.R., & Matruglio, E. (2013). Jointly constructing semantic waves: Implications for teacher training. *Linguistics and Education, 24(1)*, 50–63.

Maton, K. (2011). Theories and things: The semantics of disciplinarity. In F. Christie & K. Maton (Eds.), *Disciplinarity: Functional linguistic and sociological perspectives* (pp.62–84). London: Continuum.

Maton, K. (2013). Making semantic waves: A key to cumulative knowledge-building. *Linguistics and Education, 24(1)*, 8–22.

Maton, K. (2014). *Knowledge and knowers: Towards a realist sociology of education*. London: Routledge.

Mezirow, J. (2006). An overview of transformative learning. In P. Sutherland & J. Crowther (Eds.), *Lifelong learning: Concepts and contexts* (pp. 24–38). London: Routledge.

Moon, J. (2006). *Learning journals: A handbook for reflective practice and professional development.* London: Routledge.

Nesi, H., & Gardner, S. (2012). *Genres across the disciplines: Student writing in higher education*. Cambridge: Cambridge University Press.

Poulet, C. (2016). Knowledge and knowers in tacit pedagogic contexts: The case of freemasonry in France. In K. Maton, S. Hood & S. Shay (Eds.), *Knowledge-building: Educational studies in Legitimation Code Theory* (pp. 214–230). London: Routledge.

Ryan, M., & Ryan, M. (2013). Theorising a model for teaching and assessing reflective learning in higher education. *Higher Education Research & Development*, 32*(2)*, 244–257.

Schön, D. (1983). *The reflective practitioner*. San Francisco, CA: Jossey-Bass.

Siebörger, I., & Adendorff, R. D. (2015). Resemiotizing concerns from constituencies in the South African parliament. *Southern African Linguistics and Applied Language Studies* 33*(2)*, 171–197.

Szenes, E., Tilakaratna, N., & Maton, K. (2015). The knowledge practices of critical thinking. In M. Davies & R. Barnett (Eds.), *The Palgrave handbook of critical thinking in Higher Education* (pp. 573–591). London: Palgrave Macmillan.

Tribble, C., & Wingate, U. (2013). Learning from student texts: A genre-based approach to 'mainstreaming' academic writing instruction. BALEAP Pre-Conference Workshop, Nottingham University, UK, 9 April 2013.

Wingate, U. (2015). *Academic literacy and student diversity: The case for inclusive practice*. Clevedon, UK: Multilingual Matters.

Wolff, K. & Luckett, K. (2013). Integrating multidiscipinary engineering knowledge. *Teaching in Higher Education,* 18(1), 78–92.