- In order to ease the pressure on academic staff who are very busy and don't have time to keep up with all the enhancement developments, the outputs must be easy to pick up, so be publishable in digestible bits (e.g. podcasting, video-streaming, or one-page digests)

- For educational developers the outputs must be relevant and useable in staff development contexts

- We need to think of new ways to help academics work within ever tightening funding regimes which ask for maintenance of excellence for less investment.

Further reading

QAA Enhancement Themes at http://www.qaa.ac.uk/scotland/qualityframework/enhancementthemes.asp.

SHEEC at http://www.enhancementthemes.ac.uk/SHEEC/default.asp.

Saunders *et al.* (2009) Evaluation of QEF (http://tinyurl.com/Saunders-et-al).

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ETC (2010) (http://www.enhancementthemes.ac.uk/Conference/Default.asp).

QAA (2008) 'Enhancement-led institutional review handbook', Scotland, 2nd edition (http://tinyurl.com/ELIRHandbook).

QAA (2009) 'Learning from ELIR – aligning enhancement strategies with staff development' (http://tinyurl.com/ELIR-Staff-Dev).

SFC (2007) 'Final report from Joint Quality Review Group to Council' (http://tinyurl.com/SFCAugust2007) (look for SFC_07_113_ANNEX).

SHEEC (2009) 'Indicators of enhancement' (http://tinyurl.com/Ind-of-Enh).

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Sowing the seeds of enhanced academic writing support in a research-intensive university

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Introduction

The University of Bath is a research-intensive university with a strong tradition in science and engineering. Its pedagogical support for undergraduates has many strengths although its provision for advanced academic writing may not, until recently, have been one of them. In 2007, the Director of Learning and Teaching Enhancement won support from the Royal Literary Fund (RLF) for an RLF Fellow to join the University for two days a week. He was to offer one-to-one coaching in non-remedial academic writing to undergraduate and postgraduate science and engineering students. The Fellow was a professional writer with a background as a scientific researcher and college lecturer, who was just about to complete a PhD in Education at Bath, so the match between Fellow and University was a strong one.

It quickly became apparent that there was an appetite among students and staff for enhanced academic writing support from a professional writer, which complemented the existing departmental provision and the strong support from the University's English Language Centre and Learning Support. At peak times of the year the RLF service was inundated, which against a tight financial backdrop nevertheless prompted an expansion of the scheme, with a second RLF Fellow joining in 2009.

The Undergraduate Director of Studies for Civil Engineering was quick to recognise the potential benefits of having an 'in-house' professional writer and invited the Fellow to talk to final-year Civil Engineering undergraduates about dissertation writing. They liaised closely so that the session was tightly focused on the practicalities of writing dissertations: the overlapping phases of literature searching, field or laboratory research, and dissertation planning, composing and reviewing of work-in-progress. Although well received, this session was based on untested assumptions about what students required. But what had students experienced in the way of academic writing support before embarking on their dissertations? And what were their perceived needs for writing support at this stage?

Soon after, an academic staff developer joined the University's Learning and Teaching Enhancement team, who fortuitously had a background in engineering, but also a strong commitment to equality of opportunity and social justice. At a staff development 'away day' the staff developer and RLF Fellow found common ground in wishing to investigate final-year undergraduate civil engineers' experience of academic writing. So was born the small-scale project described in this article.

Seed funding

With research roles for two of the project team falling within job descriptions, funding was required for the RLF Fellow to collaborate on the research design, data

analysis and to carry out the bulk of the draft-writing for the project. Funding was obtained through a SEDA Research and Development Small Grant, University of Bath Learning and Teaching Enhancement funding, and some Architecture and Civil Engineering departmental support. The total funding for staff buyout was about £2K. What would be the outcome from such a small amount of seed funding? This was particularly relevant given that, in response to the RLF initiative, the University's Learning and Teaching Enhancement Office (LTEO) was showing interest in supporting enhanced academic writing development provision more widely.

The research and development project sought to answer two questions:

1. What were the students' perceptions of key writing influences during their undergraduate course generally, and their final-year dissertation writing specifically, on the way to becoming graduate civil engineers?

2. And drawing upon the findings in response to 1, how might the writing development of undergraduate civil engineering students be best supported?

The research context

Given the staff developer's interest in student voice and empowerment, it was decided to investigate civil engineering students' experiences of writing through two theoretical frameworks that have high popularity for undergraduate students' writing development but that are rarely applied in an engineering context. Ivanic (1995) and Lillis (2001) address issues of power, authority, and identity among students as authors. They consider students' 'voice' in writing in terms of the language students use and the ideas and beliefs students express. These researchers distinguish expression of authorship, authorial presence and authority in student writing (Table 1).

Authorship	What do you want to say?
Authorial presence	How do you want to say it?
Authority	Who do you want to be?

Table 1   Classification of students' meaning-making in HE based on Ivanic (1995) and Lillis (2001)

Drawing upon this notion of student writing as a more contested form of discourse than accepted traditionally, Lea and Street (1998) developed a framework for contextualising students' writing development. They suggested a classification that can be seen as a hierarchy, with higher levels building on lower and the potential for all three levels to apply in a given context (Table 2).

Academic Literacies	Writing as meaning-making and contested
Socialisation	Social encouragement into a culture, with writing as a more or less transparent medium of representation
Skills	Writing as a technical and instrumental skill

Table 2   Summary of Lea and Street's (1998) classification of models of students' writing development in HE

These two theoretical frameworks appear so far to have received little (Hyland, 2002; Ahearn, 2006) or no reported attention (e.g. Gruber et al., 1999; Rhoulac and Crenshaw, 2006) applied to academic writing in engineering. It was therefore felt that the project's theoretical approach was likely to provide fresh insight into the learning and teaching of writing within the discipline. The project might also shed light as to how writing influences students' identities in terms of 'being' and 'becoming' a civil engineer. The team adopted a qualitative, interpretive approach (Jacob, 1987) that sought to be open to students' reported experience. Themes arising from the analysis of responses would inform future initiatives to enhance civil engineering students' writing development.

The team carried out data gathering before and after two forms of writing development intervention by the RLF Fellow: a 50-minute presentation on dissertation writing, and the provision of one-to-one writing tutorials as part of the RLF Fellowship's wider support for those students requesting it (of which 10 out of 50 students did so).

The chosen research instruments were two questionnaire surveys, completed anonymously, complemented by semi-structured interviews with a stratified sample of students. Both questionnaire surveys employed questions that were moderately open, inviting a free and candid response. Students' responses offered their perceived experience of writing during the course, any key experiences that might have supported them in developing their writing, and their sense of the role of writing in being a civil engineer.

In early December of the students' final year, and before they did any major work on their project literature reviews, they completed Questionnaire 1. Of 49 students attending, 48 (98%) completed and returned the questionnaire. In late April, about one week after submitting their final-year dissertation, students completed Questionnaire 2 when attending the poster presentations of their work. One question 'What do you think is the role of writing in being a civil engineer?' was repeated from Questionnaire 1, so enabling comparison of responses over time. Other Questionnaire 2 questions focused on their recent experience of completing the dissertation. About 30 students attended the poster presentation, of which 26 completed and returned questionnaires and 13 were interviewed.

At the event the project's academic staff developer invited students to be interviewed singly, in pairs or in threes. The semi-structured interviews followed similar questions to those in Questionnaire 2, plus questions about the process of writing the dissertation and whether students felt the course had prepared them appropriately for the writing they would carry out as civil engineers. Subsequently, the academic staff developer and RLF Fellow separately coded students' responses in questionnaires and interviews and then met to agree the main themes arising.

Emerging themes

Several themes emerged from the data and their analysis. They included students' engagement with academic reading, their modelling of good practice, their personal management when writing, and tension between their emerging academic and professional identities. Nevertheless, given the project's small scope, the team focused on the three themes below.

Giving students formative feedback

The reported absence of staff developmental (formative) feedback on written work was a strong feature in students' responses. A large body of research in HE pedagogical theory and practice (for example, Black and Wiliam, 1998; Boud, 2000, Nicol and Macfarlane-Dick, 2006) suggests that timely, appropriate developmental feedback is one of the most powerful encouragements to learning. The reported perceptions and experiences of students, and their observed actions, suggested that at the time of the research there was not yet a departmental culture that actively encouraged and supported developmental feedback on assessed assignments generally and on students' writing specifically.

For example, by the final year, although students were offered the opportunity for developmental feedback on their dissertation literature review, fewer than 10% took this opportunity. Although this could be taken to suggest that students were already effective, independent learners, who did not require such support, the 'bigger picture' suggested otherwise. For instance, during an interview with three students, two commented strongly about feedback:

> *Student 3. That is one of the downsides. There is very little feedback that you get…In general…and with our writing.*

> *Student 2. Yes, both on the quality and quantity [of feedback].*

> *Student 3. We don't know where we're going wrong.*

Writing with confidence and authority

Evidence from students' questionnaire and interview responses, and the RLF Fellow's reported experience of tutoring ten students, suggested that final-year civil engineering undergraduates were finding their way, often uncertainly, in developing their 'voice' (the language they used and their expression of ideas and beliefs) within the discourse of a final-year dissertation. The following extract from an interview with three students sums up many students' views about the nature of the dissertation and the extent to which they felt they could express personal views in writing their dissertation:

> *Student 1. He told me I was being too personal…so I feel [being yourself] is not something for a dissertation… anyone could have written it sort of thing.*

> *Student 2. They're supposed to be quite neutral reports aren't they? Scientific.*

> *Student 3. More technical, less individualised. A third person view.*

Seeking to compare the provisional findings with Lea and Street's (1998) classification of student writing in HE (Table 2), the observed writing development culture in the University of Bath's undergraduate civil engineering courses appeared to be skills and socialisation orientated. Could it be more orientated to an academic literacies approach? Should it be? At the least, it seemed appropriate for students to be challenged and encouraged to 'find their voice' within an assignment, rather than perhaps have it constrained by skills (student deficit) and academic socialisation models that promote a right way to write a dissertation. By developing confidence in their 'voice', which carries conviction and authority nurtured by positive developmental feedback and deep thinking about their writing, students might develop a stronger self-identity as a civil engineer, and earlier on in the course.

Scaffolding writing development

Several students in interviews commented that the final-year dissertation was 'daunting'. This suggested that many students perceived the leap between previous assignments and the final dissertation to be large. It may have been the unexpressed intent of the department for students to 'sink or swim' in an academic culture that sought to reflect some of the more extreme commercial pressures experienced by practising civil engineers. However, such a culture ran the risk of some students underperforming because they had not yet developed sufficient confidence in their writing and other academic abilities. By reviewing students' writing challenges in assessed assignments from first through to final years, it should be possible to tailor a smoother progression in developing students' writing skills and associated values, attitudes and identities.

Recommendations and actions

Taking the three themes into account, the team concluded that Bath's undergraduate Civil Engineering courses were rich in learning and assessed assignments, including individual and group work, which encouraged several types of discourse for different purposes and audiences. However, there were missed opportunities for providing timely developmental feedback and to scaffold learning experiences to develop students' abilities and confidence in writing. Among the recommendations made in a report to the Department of Architecture and Civil Engineering (ACE) were:

- To review existing assignments to clarify their writing requirements in terms of the purpose of the final document to be assessed, the intended *voice and viewpoint* of the student as author, the presumed *readership,* and the resultant *code* (format, structure and style) taking into account these factors

- To review existing assignments with the intention of *gradually developing students' writing skills, values, attitudes and identities* to encompass the range of discourses expected of a civil engineer and in good time to lay a firm foundation for the final-year dissertation

- To explore the use of *formative and summative feedback* on students' writing, drawing on best-practice principles, such as timeliness, being both group and individual focused, paced to the individual(s), and with a positive focus (Lea and Street, 2000; Catt and Gregory, 2006: Nicol and Macfarlane-Dick, 2006; Race, 2007)

- To continue to provide writing support to final-year undergraduates – both one-to-one and whole cohort – of a form currently provided by the RLF Fellow.

Spearheaded by the Undergraduate Director of Studies, ACE has chosen not to take a 'top-down' strategic approach in response to some of the recommendations. Instead, it has distilled some of the recommendations into one of ten discussion points in the department's five-yearly course review that involves staff and external reviewers. Its inclusion will inform dialogue between practising engineers, staff and students, aimed at ensuring that the needs of all parties are considered. In advance of this, however, ACE is already implementing some of the other recommendations. Personal tutors are academic tutors too, and the current first-year student cohort is experiencing planned formative feedback on their Semester 1 poster presentations. In Semester 2 staff plan to provide structured formative feedback in essays and small design reports. So far, staff have been pleasantly surprised that students take the work seriously even when it is at the stage of not being assessed formally for grades.

As for writing development progression, students in Year 1 are now filling in pro-forma document structures for their laboratory reports. Early in Year 2 they develop their own reports, with detailed guidance, but later are given more independence to research their investigations, carry out the laboratory work, and then consider how best to present their findings in a report. Staff are currently considering how to support and assess writing development in group projects, where students collaborate on a project and, in some cases, jointly write the final report.

Returning to the research and development project, it did not always run smoothly, and there were undoubted differences in perspectives among the team. For example, the team's academic staff developer held a stronger view on the appropriateness of writing as a contested discourse in an engineering-based undergraduate degree. The two other team members were more cautious about the cultural shift to a stronger academic literacies approach, given the other demands on civil engineering students and current staff working at undergraduate level. Nevertheless, there was sufficient common ground between all three for workable recommendations to emerge.

The project has shifted the writing development agenda within a department, acknowledging good practice while providing recommendations that have acted as a springboard for action. It has provided a model for writing development research and practice that has broader implications for the University, which is now funding wider-scale writing development projects through the Learning and Teaching Enhancement Office. It reveals what a small group of individuals, working on a small budget and with openness, determination, flexibility and mutual respect, can achieve if they have a clear mission and the students' interests at heart.

Acknowledgements

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