

Writing in the academy

Reputation, education and knowledge

A professorial lecture by Ken Hyland

Ken Hyland explores the importance of writing in higher education to both academics and students by focusing on the ways it contributes to knowledge, education and the professional careers of academics themselves. He presents aspects of his research to argue that writing is at the heart of academic practice and that we need to understand literacy as a situated activity and not as simply as textual and psychological. Seeing writing as embedded in the epistemologies of individual disciplines helps students to conceptualise their subjects and academics to engage their peers and to argue their claims persuasively. Ultimately, and in an important sense, we are what we write, and we need to understand the distinctive ways our disciplines have of identifying issues, asking questions, addressing a literature, criticising colleagues, and presenting arguments.

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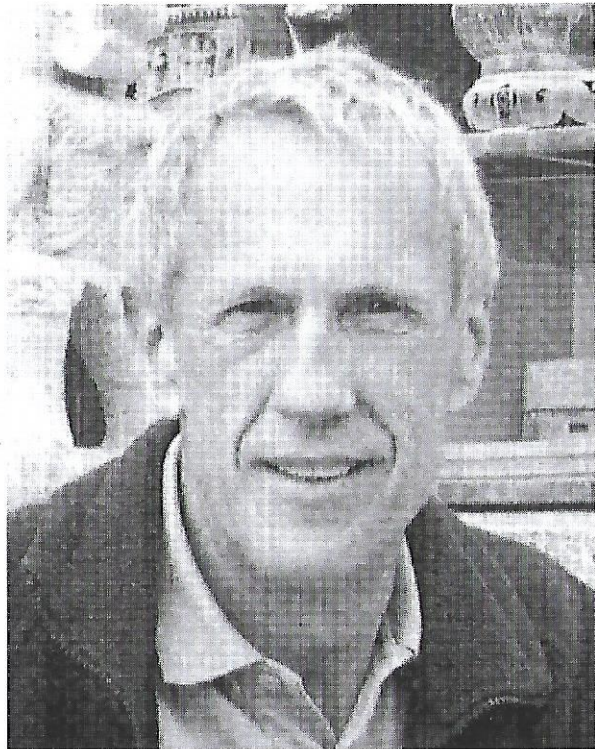
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Professor Ken Hyland

Writing in the academy

Reputation, education and knowledge

The title of this talk has a rather daunting scope but it offers a way of organising my discussion of some key aspects of academic literacy. Writing in the academy has assumed an enormous importance in recent years as countless students and academics around the world must now gain fluency in the conventions of academic writing in English to understand their disciplines, to establish their careers or to successfully navigate their learning. In this presentation I will explore the importance of writing in higher education to both students and academics by focusing on the three elements of the title. Taking a social view of literacy, I present some aspects of my research and argue that writing is at the heart of academic practice and that academic literacy cannot be understood simply as textual and psychological. Writing must be seen as embedded in the epistemologies of individual disciplines and taught as an integral element of disciplinary pedagogies.

The current interest in academic writing

I think it is fair to say that the current interest in academic writing is principally the result of three major developments over the past 20 years.

First, the huge expansion of higher education (HE) to almost 40 per cent of the eligible age group has meant an increasing ethnic, class, and age diversity in the student body. While some groups are still massively under-represented, courses in UK universities are no longer dominated by white, middle-class, monolingual school leavers in full-time enrolment. This more culturally, socially and linguistically heterogeneous student population means that learners bring different identities, understandings and habits of meaning-making to their

learning. In effect, tutors can no longer assume their students will bring the same understandings, skills and learning experiences that will equip them with the writing competencies they need to meet the demands of their courses.

Second, universities and other HE institutions around the world are increasingly becoming subjected to 'teaching quality audits' by funding bodies and so are devoting more attention to the processes of teaching and learning and more resources to the training of teaching staff. Student writing is now often a key area in continuing professional development programmes and, following the Deering Committee's recommendations, part of the national framework for the training of university teaching staff.

The third reason for this interest in English academic literacy has been the emergence of English as the international language of research and scholarship. With half the world's population predicted to be speaking the language by 2050, English seems to be becoming less a language than a basic academic skill for many users around the world. Some 1.2 million students now study in English outside their home countries and many come to the UK. There were 290,000 overseas students in Britain in 2004, and international students now comprise almost 50 per cent of all postgraduates. The £23 billion they contribute annually to the British economy has turned the heads of Vice Chancellors struggling to make up for severe shortfalls in government funding, and several UK universities have restricted home student places to tap this income source more aggressively.

I'd now like to look a little more closely at the nature of this writing and draw on my research into academic literacy over the last 20 years to say something about my understanding of how we use it to shape our lives and the ways that it, in turn, works to shape us.

Education

Student writing is at the centre of teaching and learning in Higher Education. While multimedia and electronic technologies are beginning to influence learning and how we assess it, writing currently remains the way which

students both consolidate and demonstrate their understanding of their subjects. The main function of writing, however, now seems to be gate-keeping and assessment – students don't seem to write 'essays' at university but 'assignments'. But whatever form writing takes, and it obviously differs by genre, course and discipline, it all conforms to a single, institutionalised literacy which differs dramatically from that familiar to students from their homes, schools or workplaces. Trusted ways of writing are no longer valued as legitimate for making meaning when they arrive at university because of the different practices of the academy.

Essentially the process of writing involves creating a text that we assume the reader will recognise and expect, and the process of reading involves drawing on assumptions about what the writer is trying to do. Hoey (2001) likens this to dancers following each other's steps, each building sense from a text by anticipating what the other is likely to do. But while this anticipation provides for writer–reader coordination, allowing the co-construction of coherence from a text, academic writing disrupts our everyday perceptions of the world and sets up different expectations.

Broadly, the social practices of the academy produce particular configurations of text which cause difficulties for many students. In everyday uses of language, for example, we tend to represent things in a certain way, so that events unfold in a time sequence and agents accomplish actions. This is a 'natural' or congruent representation in that we tend to translate our perceptions of the physical world in the grammatical system of language: we call it as we see it. Academic writing, however, turns our way of expressing meanings on its head through an incongruent use of language. It treats events as existing in cause and effect networks, disguises the source of modality of statements, foregrounds events rather than actors, and engages with meanings defined by the text rather than in the physical context.

In addition to reshaping context in these ways, the preferences for organising ideas and structuring arguments in English can also create serious problems for international students who are writing in a foreign language. Compared with many languages, for instance, academic writing in English tends to:

- be more explicit about its structure and purposes with constant previewing and reviewing of material
- employ more, and more recent, citations
- be less tolerant of digressions
- be more cautious in making claims, with considerable use of mitigation and hedging
- use more sentence connectors to show explicitly how parts of the text link together.

Michael Clyne (1987) has sought to explain these characteristics by arguing that English differs from a number of other languages by placing responsibility for coherence and clarity on the writer rather than on the reader. This emphasis is very different to those familiar with writing in German, Korean, Chinese or Japanese, for instance, where such elaboration may be seen as condescending to the reader. Instead, the writer compliments readers by not spelling everything out explicitly but assigning them a more active role, attributing to them the knowledge and interpretive resources to re-construct the writer's meaning.

Culture, however, is an extremely controversial notion, with no single agreed definition. One version sees it as an historically transmitted and systematic network of meanings which allow us to understand, develop and communicate our knowledge and beliefs about the world (Lantolf, 1999; Street, 1995). Language and learning are therefore intrinsically bound up with culture. This is partly because our cultural values are carried through language, but also because cultures make available certain taken-for-granted ways of organising our understandings, including those we use to learn and to communicate.

The trouble with such broad generalisations, however, is that it is all too easy to over-emphasise differences and place the blame on culture for students' writing difficulties. For example, some years ago John Milton and I explored a corpus of 1,800 A-level exam papers by Hong Kong and British school leavers for *hedges* and *boosters* (Hyland and Milton, 1997). Essentially, these are the labels given to the linguistic features we use to mitigate, or tone down (*hedge*),

our statements, or to strengthen (*boost*) them. In that study we found that while both groups of students used the same number of devices overall, about one every 50 words, the native English speakers used over a third as many hedges and the HK students almost twice as many boosters.

Figure 1 shows the percentage distributions among certainty, probability and possibility items in the two corpora. The dark bars show the percentage of each used by HK students and the light bars the uses by UK students. We can see from this that the HK students were more likely to be definite and certain, while the UK students expressed statements more cautiously as probabilities. Both groups expressed possibility equally.

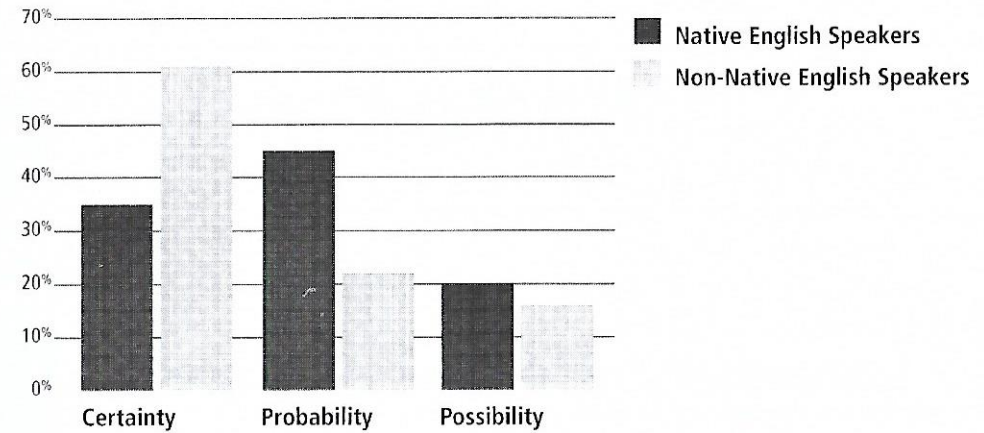


Figure 1 Distribution of hedges and boosters in A-level corpus

While this might seem a small point, such differences are not always viewed as merely preferred alternative ways for expressing ideas in different languages, but have pragmatic consequences. The fact that the Hong Kong students' writing seems much stronger can lead English-speaking readers, approaching a text with another set of expectations, to make negative moral or cultural judgements about the writer. Take this example from the Hong Kong students' corpus:

There is *strong* evidence to *demonstrate* the relationship between EQ and the academic performance. High EQ is *definitely* an advantage in any domain of life and *we all know* that a person with high EQ can *certainly* manage their own feelings well and deal effectively with others. *The fact that* the trend from overseas is *always* affecting Hong Kong people means that schools *must* now teach boys to be equal to female. They have their right to express emotion.

The generous peppering of boosters in this example (underlined) can make the writer appear rather too assertive, over-confident and perhaps even dogmatic. In contrast, the greater use of hedges in the Native English speaker sample below is more in line with what we expect and so we attribute positive qualities to the writer, seeing subtlety, circumspection and openness to the readers' views:

Britain is *probably* one of the few countries in the world where the constitution is not written down. This *might seem* to be *somewhat* disorganised and although it has worked *fairly well until now*, I *suggest* that this is *likely* to be unrealistic for much longer and it is *possible we may* need a Bill of Rights as there is in the USA.

We have to be on the look out for the possible prejudicial effects of our unconscious expectations. But I don't think these differences have much to do with culture. On the contrary, Contrastive Rhetoricians, researchers who compare writing across languages, might expect Chinese students, immersed as they are supposed to be in Buddhist conceptions of face, to be more circumspect and respectful than brash, assertive UK writers. The fact that HK writers prefer different patterns has, I suspect, different causes. In fact, our interviews with students and studies of secondary school textbooks suggested that these HK writers were over-generalising what they were taught about the need to be direct when writing in English. The main point I want to make here, however, is that by examining large numbers of instances and interviewing students we can learn a great deal about students' learning experiences, their understand-

ings of writing, and the ways they respond to writing tasks in English.

Overall though, the idea that university students can't write is central to official and public debate. It forms part of the public discourse of literacy crisis, falling standards, and the collapse of Western civilisation. Unfortunately the issue is framed in a way which complicates a resolution. Public debate on higher education, from radio phone-in programmes to the *Deering Report*, assumes a model of writing which separates language, writer and context. It sees students as identical and isolated, trying to acquire a set of skills independently of their identities, purposes and disciplines.

This echoes traditional linguistic conceptions of language like Saussure's distinction between *langue* – or language as system – and *parole* – language as use. This separation of system and meaning also lies behind the familiar *conduit metaphor* of language. This suggests that we have thoughts which we form into words to send to others which they receive and understand just as we intended. The ideas arrive as they were sent without change so writing is transparent in reflecting meanings rather than the means by which individuals negotiate and construct meanings. Writing is seen as an autonomous system that we all understand and use in roughly the same way with no differences in interpretation or reader positions. Good writing is largely a matter of grammatical accuracy and literacy is presented as a set of discrete, value-free rules and technical skills which include decoding and encoding meanings, manipulating writing tools, perceiving shape–sound correspondences, and so on. In higher education this pervasive view has two main implications.

First, by divorcing language from context, academic literacy is misrepresented as a naturalised, self-evident and non-contestable way of participating in academic communities. There is a single literacy and academic language is all the same, it's just a bit harder than the language we use at home or at school. In response, institutions have invested in centres like CAPLITS here at the Institute of Education to provide learners with the literacy resources they need to cope at university. But these programmes tend to be voluntary rather than compulsory, general rather than specific, and isolated rather than embedded in students' learning experiences. These factors not only limit the effectiveness of such programmes, but contribute to an ideology which transforms literacy

from a key area of academic practice, how we construct ourselves as credible linguists, psychologists or whatever, into a kind of add-on to the more serious activities of university life. English for Academic Purposes, the practice of academic literacy instruction, thus becomes a kind of support mechanism on the margins of academic work.

Second, if we regard academic writing as just an add on to the literacy skills needed in everyday life, then any writing difficulties can be seen as a deficiency in the student. Weak writing skills can be attributed to laziness, inattention or poor schooling, problems which can be put right with a few English classes. This turns our attention away from a critical understanding of the writing that students are asked to do in their courses and encourages both students and tutors to see academic writing instruction as a grammar top-up for weak learners. EAP becomes a band-aid measure to fix-up deficiencies in students themselves.

As a result of studying academic writing it has been possible to acknowledge the significance of social context and to reframe literacy as a social practice rather than a set of skills. The concepts of *literacies*, referring to language use as something people *do* when they interact with one another, and *practices*, the idea that these language activities are bound up with routine, everyday activities in the real world, provide ways of re-establishing this link between language and context. Moving away from literacy as an individual attribute is a central implication of this view. It helps us to see that words offer broad constraints on understanding but need to be, as Kress (2003) puts it, 'filled in with meaning' which comes from our past experience of that word. Basically then, literacy is a resource for social groups, realised in social relationships and acting to pattern and structure those groups. Studying writing and the activities that surround it therefore becomes a powerful tool for understanding the experiences of everyone in higher education, whether students or tutors.

First, it helps us to see that texts don't exist in isolation but are part of the communicative routines of social communities. This not only means that genres are related to other genres and the text we read are connected to the texts we write, but that language is intimately related to the different episte-

mological frameworks of the disciplines and inseparable from how they understand the world. Bartholomae's famous quote captures this well:

Every time a student sits down to write for us, he has to invent the university for the occasion – invent the university, that is or a branch of it, like history, anthropology or economics or English. He has to learn to speak our language, to speak as we do, to try on the peculiar ways of knowing, selecting, evaluating, reporting, concluding, and arguing that define the discourse of our community.
(Bartholomae, 1986)

Such 'ways of knowing' are not learned by rote but by writing. Teaching writing therefore needs to be embedded in subject learning to provide students with a means of conceptualising disciplinary epistemologies.

Second, this in turn this means using the analytical tools of applied linguistics to describe the features of academic genres so we can make these explicit to students. This is the domain of English for Academic Purposes (EAP), which draws on applied linguistics and an eclectic theoretical base to provide grounded insights into the structures and meanings of texts, the demands placed by academic contexts on communicative behaviours, and the pedagogic practices by which these behaviours can be developed. This means going beyond the teaching of lists of supposedly common grammatical structures and vocabulary which autonomous views of literacy assume, to understand the choices language uses make to most effectively express their intended meanings. It means trying to understand the practices of real people communicating in real contexts by describing and analysing relevant texts; interpreting the processes involved in creating and using these texts; and exploring the connections between disciplinary writing and the institutional practices it sustains (Hyland, 2003; 2006).

Third, the study of academic literacy also encourages us to look beyond the immediate context of writing to explore a wider and more abstract notion of culture: the ways that institutional and disciplinary structures impact on language use.

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Socially powerful institutions, such as education, support dominant literacy practices which are part of organised configurations of power and knowledge that are embodied in social relationships. Other vernacular literacies in people's everyday lives are less visible, less prestigious and less supported (Barton and Hamilton, 1998). In Higher Education, what Fairclough (1992) calls 'orders of discourse', the arrangement of discourses like seminars, lectures and essays, provide configurations of practices which govern what can be known, who can know it, and how it can be discussed. Recently, Benesch (2001) has argued that teachers need to engage with issues of power by questioning rather than reinforcing conformity to dominant discourses. The view here is that our teaching practices should be *less accommodationist* to dominant political and institutional orders, helping students to perform the best they can while 'encouraging them to question and shape the education they are getting' (Benesch, 2001: xvii). By exploring these connections between institutions and literacy, both tutors and students are in a better position to understand and critique their disciplines and to identify the role of literacy which academic literacy plays in shaping both disciplines and individuals.

Knowledge

This brings us neatly on to the second part of my talk as we move on to *knowledge*. If we reject the idea of language is a transparent medium of communication then we give prominence to writing in how academics reach agreement on claims and the ways disciplines construct knowledge.

Academic writing clearly enjoys a privileged status in the west, representing what Lemke (1995: 178) calls 'the discourse of Truth'. It provides an objective description of what the natural and human world is actually like and this, in turn, serves to distinguish it from the socially contingent. We see this form of persuasion as a guarantee of reliable knowledge, and we invest it with cultural authority, free of the cynicism with which we view the partisan rhetoric of politics and commerce. Through induction, experimentation and falsification it gives us direct access to the external world and the text is just a channel to report

observable facts. But induction does not offer castiron proof, and by moving from observations of instances to statements about unobserved cases we introduce uncertainty. The problem for scientific knowledge, then, is that interpretation always depends on the assumptions scientists bring to the problem. As the Nobel physicist Stephen Hawking (1993) notes, 'a theory may describe a range of observations, but beyond that it makes no sense to ask if it corresponds to reality, because we do not know what reality is independent of a theory'.

In other words, there is always going to be more than one possible interpretation of data and the fact we can have these competing explanations shifts attention from the laboratory or clipboard to the ways that academics argue their claims. We have to look for proof in the textual practices for producing agreement. At the heart of academic persuasion, then, is writers' attempts to anticipate and head off possible negative reactions to their claims and to do this they use the discourses of their disciplines.

This social constructivist position suggests that knowledge and social reality are created through daily interactions between people and particularly through their discourse. It takes a critical stance towards taken-for-granted knowledge and, in opposition to positivism and empiricism in the natural sciences, questions the idea of an objective reality. It encourages us to recognise that everything we see and believe is actually filtered through our theories and our language, sustained by social processes, which are culturally and historically specific. Discourse is therefore central to relationships, knowledge and scientific facts, since all are rhetorically constructed by individuals acting as members of social communities. The goal of academic literacy studies is therefore to discover how people use discourse to create, sustain and change these communities; how they signal their membership; how they persuade others to accept their ideas; and so on. Stubbs succinctly combines these issues into a single question:

The major intellectual puzzle in the social sciences is the relation between the micro and the macro. How is it that routine everyday behaviour, from moment to moment, can create and maintain social

institutions over long periods of time? (*Stubbs, 1996: 21*)

This emphasises the community-based orientation to literacy I discussed in relation to education. Just as academic literacies are not just a bolt-on to home literacies, physicists don't write like philosophers nor lawyers like linguists. Writers have to establish a professionally acceptable voice and an appropriate attitude, both to their readers and their arguments. We galvanise support, express collegiality, and negotiate disagreement through linguistic choices which connect our texts with our disciplines. Claims for the significance and originality of research have to be balanced against the convictions and expectations of readers, taking into account their likely objections, background knowledge, rhetorical expectations and processing needs (Hyland, 2000; 2001; 2005a). In other words, the linguistic resources we unreflectively choose to present our arguments locate us in our disciplines: they present us as competent, credible insiders and allow us to engage with other insiders, anticipating the actual or potential voices and views of our readers. In sum, it is through language that we create a stance and align ourselves with a community.

My research into a range of academic genres over the last decade or so describes some of the ways that writers in different disciplines represent themselves, their work and their readers in very different ways. A corpus of 240 research articles of 1.5 million words, for example, shows that some 75 per cent of all features marking author visibility, such as self-mention, personal evaluation and explicit interaction with readers, occur in the humanities and social sciences (Hyland, 2005b). This shouldn't, perhaps, surprise us. After all, empiricism finds its truths by observing the world and so needs a language that represents real events without the mediation of rhetoric. This is what Foucault (1974) characterised as the neo-classical search for a univocal discourse – a one-to-one correspondence between words and categories of things which linked the rise of science with the eighteenth-century interest in dictionaries, grammars and scientific taxonomies.

But this word–meaning correspondence is an illusion, and legal disputes over of the most explicitly written legal documents shows how words can have multiple meanings. Simply, the relative impersonality of scientific discourse is

not an absence of rhetoric but a different kind of rhetoric, based, like all persuasive writing, on an assumed consensus of how language can be used within particular communities. Let me illustrate this with two brief examples from my research.

1 Hedges and boosters

As I mentioned earlier, hedges and boosters are the ways we express our commitments to our claims – the epistemic value we give them, either conveying caution and acknowledging others' views by hedging, or stressing our commitment and closing out alternatives with boosters. Interestingly, these features are 2? times more common in the humanities and social science papers than the hard sciences.

Clearly, argument in the soft-knowledge fields relies more on recognising alternative voices. Hedges and boosters represent a writer's intrusion into a text to offer explicit epistemological evaluation of material. The fact that there is less control of variables than in the sciences, more diversity of research outcomes, and fewer clear bases for accepting claims means that writers can't report research with the same confidence of shared assumptions. Arguments have to be expressed more cautiously by using more hedges in the soft fields, so we tend to find statements expressed like this:

Wilson leaves us disappointed, *it seems to me*, in the sense that his theory is far from being general. (*Sociology*)

We tentatively suggest that The Sun's minimalist style creates an impression of working-class language, or restricted code (*Applied Linguistics*)

As far as I know, this account has gone unchallenged. (*Philosophy*)

We *hypothesise* that desires, like expectations, will affect disconfirmation negatively. (*Marketing*)

But because methods and results are more open to question, writers also work harder to establish the significance of their work against alternative interpretations and to create an understanding with readers. Personal credibility, getting behind your arguments and closing down possible alternative voices, is an important part of creating a convincing discourse in the humanities and social sciences. This means we find more boosters. Two comments from informants underline this. First, a sociologist informant told me:

It's important to show where you stand. The people who are best known have staked out the extreme positions. The people who sit in the middle and use words like 'suggest', no one knows their work.

And a philosopher echoed these sentiments:

I'm very much aware that I'm building a façade of authority when I write, I really like to get behind my work and get it out there. Strong. Committed. That's the voice I'm trying to promote, even when I'm uncertain I want to be behind what I say.

In the hard sciences positivist epistemologies mean that the authority of the individual is subordinated to the authority of the text and facts are meant to 'speak for themselves'. Writers often disguise their interpretative responsibilities behind linguistic objectivity as they downplay their personal role to suggest that results would be the same whoever conducted the research. The less frequent use of hedges and boosters is one way of minimising the researcher's role, as is the preference for modal verbs over cognitive verbs. Modals can more easily combine with inanimate subjects to downplay the person making the evaluation and 'objectify' the research. So instead of finding patterns such as these, where responsibility for the evaluation is explicit:

I think this would be a mistake. (*Sociology*)

We *suspect* that the type of product used in this study may have contributed to the result (*Marketing*)

I *want to suggest* that these principles apply to the choices that people make within the legally coercive structures of justice. (*Philosophy*)

We tend to find patterns like this, which disguise the source of the interpretation:

For *V. trifidum*, ANOVA showed a significant increase from L to L' and FI, which *could be interpreted* as reflecting the dynamics of fungal colonization. (*Biology*)

The deviations at high frequencies *may* have been caused by the noise measurements... (*Electronic Engineering*)

From the AHk values measured here, it *may* be concluded that Gd³⁺ ions prove to be weak relaxing ions of the rare-earth series. (*Physics*)

Scientists tend to be concerned with generalisations rather than individuals, so greater weight is put on the methods, procedures and equipment used. This helps reinforce a view of science as an impersonal, inductive enterprise and allows scientists to see themselves as discovering truth rather than constructing it.

2 Citation

My second example is citation. The inclusion of references to the work of other authors is obviously central to academic persuasion. Not only does it help writers to establish a persuasive epistemological and social framework

for the acceptance of their arguments by showing how a text depends on the understandings and previous work in a discipline, but it also displays the writer's status as an insider. It helps align him or her with a particular community or orientation and establish a credible writer ethos, confirming that this is someone who is aware of, and is knowledgeable about, the topics, approaches, and issues which currently interest and inform the field. This helps to explain why I found 70 citations per paper in a study of 80 research articles in eight disciplines. But because discourse communities see the world in different ways they also write about it in different ways, as we can see from Table 1.

Table 1 Rank order of citations by discipline

Discipline	per 1,000 words	Discipline	per 1,000 words
Sociology	12.5	Biology	15.5
Philosophy	10.8	Electronic engineering	8.4
Applied Linguistics	10.8	Mechanical engineering	7.3
Marketing	10.1	Physics	7.4

The table reveals the preference for citations in the soft knowledge disciplines per 1,000 words of text. When we look at the raw numbers, we find that two-thirds of all the citations in the corpus were in the philosophy, sociology, marketing and applied linguistics papers, twice as many as in the science disciplines. Basically the differences reflect the extent writers can assume a shared context with readers. In Kuhn's 'normal science' model, natural scientists produce public knowledge through relatively steady cumulative growth. Problems tend to emerge on the back of earlier problems as results throw up further questions to be followed up with further research so writers don't need to report research with extensive referencing. The people who read those papers are often working on the same problems and are familiar with the earlier work. They have a good idea about the procedures used, whether they have been properly applied, and what results mean.

In the humanities and social sciences, often referred to as the 'soft knowledge fields', on the other hand, the literature is more dispersed and the

readership more heterogeneous, so writers can't presuppose a shared context but have to build one far more through citation. Biology spoils the rather neat division between the writing practices of the hard and soft knowledge disciplines by having the highest citation count per 1,000 words. Interestingly, this is largely due to a high proportion of self-citation, with 13 per cent of all citations being to the current author. Speculatively, this may be due to something of an entrepreneurial spirit in biology, a notion of scientific knowledge as private property that originated with Watson and Crick's 1953 paper which put forward a strong proprietary claim to the double helix.

There are also major differences in the ways writers report others' work, with results suggesting that writers in different fields almost draw on completely different sets of reporting verbs to refer to their literature. Among the higher frequency verbs, almost all instances of *say* and 80 per cent of *think* occurred in philosophy; 70 per cent of *use* in electronics. The most common forms across the disciplines are shown in Table 2.

Table 2 Most frequent reporting verbs

Discipline	Most frequent forms
Philosophy	say, suggest, argue, claim
Sociology	argue, suggest, describe, discuss
Applied Ling.	suggest, argue, show, explain
Marketing	suggest, argue, demonstrate, propose
Biology	describe, find, report, show,
Electronic Engineering	show, propose, report, describe
Mechanical Engineering	show, report, describe, discuss
Physics	develop, report, study

So, engineers *show* while philosophers *think*, biologists *describe* and linguists *suggest*. This division translates into broad purposes, since the soft fields largely use verbs that refer to **discourse activities** – like *discuss*, *hypothesise*, *suggest*, *argue*, etc. – which involve the expression of arguments. For example:

Lindesmith's (1965) classic work *indicated* the ...
 Davidson *defends* this claim on the grounds that ...
 Ballard and Clanchy (2001) *argue* that ...
 Over 25 years ago Hardy (1975) *lamented* that ...

These forms allow writers to explore issues discursively and also often carry a more evaluative element in reporting others' work.

Engineers and scientists, in contrast, preferred verbs which point to the *research* itself, such as *observe*, *discover*, *show*, *analyse*, *calculate*, which represent real world actions:

Edson et al. (1993) *showed* processes were induced ...
 the structure was *studied* by Mazur [7] and Tech et al [8] ...
using special process and design, or by *adding*, or *removing* a mask.

This emphasis on real-world activities helps scientists represent knowledge as proceeding from impersonal lab activities rather than from the interpretations of researchers. The conventions of impersonality in science articles thus play an important role in reinforcing an objective ideology by portraying the legitimacy of hard science knowledge as built on socially invariant criteria. Again, it removes the author from the text to give priority to the unmediated voice of nature itself.

Reputation

Clearly, writing has enormous relevance to the ways individuals construct themselves as competent academics, build professional visibility, and establish reputations. I've mentioned the importance of disciplinary discourse conventions and the need for writers to project an appropriate, disciplinary defined stance and to engage with their readers in ways they are likely to find familiar and persuasive. In this sense the importance of academic literacy to academics cannot be overestimated. But writing has become even more important as the institutionalised system which both creates knowledge and distributes rewards: the

system of publication. A paper is judged as a contribution to a particular field by an audience of colleagues who are potentially in a position to make use of it. If editors, referees, proposal readers, conference attendees, or journal readers regard it as original and significant, allow it to be published, cite it in their own work, and develop it further, then the writer receives the reward of recognition.

Simply, academics who excel in publishing their writing are often appointed to key positions, gain access to economic resources, and occupy major gate-keeping roles. Not only do they achieve social power in their disciplines, but tend to form an elite as they exercise influence in setting standards, directing strategies, and determining what is considered good work or important topics. They may also gain greater influence as spokespeople for their colleagues, and more likely to become members of government committees and grant bodies that decide the fate of funding applications and research contracts.

Latour and Woolgar (1979), in a well-known use of a market metaphor and echoing Bourdieu's (1991) notion of symbolic value, see academics as engaged in converting different kinds of 'credit' in a cycle of moves designed to maximise their credibility. A successful publication may help a researcher gain credit which can be converted into a research grant to finance equipment and recruit colleagues. This in turn generates more data which can be converted to arguments, fresh publications, and so on. Credibility thus helps academics to progress:

For example, a successful investment might mean that people phone him, his abstracts are accepted, others show interest in his work, he is believed more easily and listened to with greater attention, he is offered better positions, his essays work well, data flow more reliably and form a more credible picture. (*Latour and Woolgar, 1979: 204*)

Success is seen as largely measured by recognition and, in turn, the process of acquiring recognition as dependent on the capacity to write papers valued by one's colleagues.

Academics are, of course, motivated by curiosity and driven by a need to understand the issues they research, although most admit that recognition is

an important source of professional reward and so publish to further their careers. But because reputation is translated into concrete consequences, and because both material and symbolic capital are scarce, academic publication is fiercely competitive. This institutionally sanctioned competition is generally supposed to be a spur to advancing knowledge, but it is now inseparable from the process by which prestige and credibility are assessed. Publication comes to equal 'productivity' and is used as a crude measure of worth, with institutions conferring promotion and tenure on the length of personal bibliographies. The emergence of Research Assessment Exercises and publication of university league tables in many countries act to fan these flames.

Writing is both the stick and the carrot which propels us around the academic treadmill. As James Watson, Nobel laureate and a member of the biology establishment, spells out:

It starts at the beginning. If you publish first, you become a professor first; your future depends on some indication that you can do something by yourself. It's that simple. Competitiveness is very dominant. The chief emotion in the field. (Cited in Judson, 1995)

Competition is increasingly important with the growth of commercial incentives which, in technological fields in particular, may be even stronger than intellectual ones.

So the pressure has been increased on academics – not only has the need to publish never been greater, but this has to be done in English. Research shows that academics all over the world are increasingly less likely to publish in their own languages and to find their English language publications cited more often. There were over 1.1 million peer-reviewed research articles published globally in English in 2005 and this number has been increasing by 4 per cent annually despite falling library budgets. This has meant that the numbers of non-native English speaking academics publishing in English language journals is increasing dramatically.

References to English language publications, for example, have reached 85 per cent in French science journals and English makes up over 95 per cent of

all publications in the *Science Citation Index*. There were, in addition, over 4,000 papers in English language social science journals in 2005 compared with only 400 just eight years earlier. With publishers increasingly encouraging libraries to subscribe to online versions of journals, the impact of English becomes self-perpetuating, since it is in these journals where authors will be most visible on the world stage and receive the most credit. Many European and Japanese journals, for instance, have switched to English with journals in Swedish, Dutch and German being extremely hard hit.

Clearly a lingua franca facilitates the exchange of ideas far more effectively than a polyglot system, but there is a real danger this will exclude many second language writers from the web of global scholarship, so depriving the world of knowledge developed outside the Anglophone centres of research. One consequence has been the development of writing for publication courses for academic staff at universities around the world. In Hong Kong staff were extremely appreciative of these courses, but also very ^{so naive} secretive about actually attending them. This is perhaps another feature of academic writing that I haven't mentioned: not only does it have to be engaging, interesting and persuasive, it must also be effortless.

Conclusions

This is all I have time to say. It might seem that as an applied linguist I've attached too much importance to the object of my trade and been guilty of over-emphasising the impact of writing in the academy. After all, being a successful student, publishing academic, influential researcher or whatever involves other competencies – craft skills, wide reading, analytical and critical abilities and so on. But while diligence and brilliance will get you a long way, we are ultimately defined and judged by our writing. It is important to stress that this writing isn't just an abstract skill, but a core aspect of the epistemological frameworks of our fields and of our identities as academics. We are what we write, and we need to understand the distinctive ways our disciplines have of identifying issues, asking questions, addressing a literature, criticising colleagues, and presenting arguments.

To sum all this up: knowledge, disciplines and the professional careers of academics themselves are ultimately constructed through the ways we write. What I have been arguing is that we need to understand the full complexity of writing as a situated activity and to recognise its central place in our practices. To do this is to both improve our practice and ensure that the teaching of academic discourse is not artificially divorced from the teaching of academic subjects.

References

- Bartholomae, D. (1986) 'Inventing the university'. *Journal of Basic Writing*, 5, 4–23.
- Barton, D. and Hamilton, M. (1998) *Local Literacies*. London: Routledge.
- Benesch, S. (2001) *Critical English for Academic Purposes*. Mahwah NJ: Lawrence Erlbaum.
- Bourdieu, P. (1991) *Language and Symbolic Power*. Oxford: Polity Press.
- Clyne, M. (1987) 'Cultural differences in the organisation of academic texts'. *Journal of Pragmatics*, 11, 211–47.
- Fairclough, N. (1992) *Discourse and Social Change*. Cambridge: Polity Press.
- Foucault, M. (1974) *The Order of Things*. London: Tavistock.
- Hawking, S. (1993) *Black Holes and Baby Universes and other Essays*. New York: Bantam.
- Hoey, M. (2001) *Textual Interaction: An introduction to written text analysis*. London: Routledge.
- Hyland, K. (2000) *Disciplinary Discourses: Social interactions in academic writing*. London: Longman.
- Hyland, K. (2001) 'Bringing in the reader: addressee features in academic articles'. *Written Communication*, 18(4), 549–74.
- Hyland, K. (2003) *Second Language Writing*. New York: CUP.
- Hyland, K. (2005a) *Metadiscourse: Interactions in writing*. London: Continuum.
- Hyland, K. (2005b) 'Stance and engagement: a model of interaction in academic discourse'. *Discourse Studies*, 7 (2): 173–91.
- Hyland, K. (2006) *English for Academic Purposes*. London: Routledge.
- Hyland, K. and Milton, J. (1997) 'Qualification and certainty in L1 and L2 students' writing'. *Journal of Second Language Writing*, 16 (2): 183–205.
- Judson, H. (1995) *The Eighth Day of Creation: The makers of the revolution in biology*. Harmondsworth: Penguin Books.
- Kress, G. (2003) *Literacy in the New Media Age*. London: Routledge.
- Lantolf, J.P. (1999). Second culture acquisition: cognitive considerations. In E. Hinkel (ed.), *Culture in Second Language Teaching and Learning*.

Cambridge: Cambridge University Press, 28–46.

Latour, B. and Woolgar, S. (1979) *Laboratory Life: The social construction of scientific facts*. Beverly Hills: Sage.

Lemke, J. (1995) *Textual Politics: Discourse and social dynamics*. London: Taylor and Francis.

Street, B. (1995). *Social Literacies*. London: Longman.