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Writing for different disciplines

Conflicting advice to students across disciplines¹

Paul

This is a very promising start to your study of modern political history. You have argued your case well and supported it with appropriate documentary evidence...

Paul

You really have a problem with this essay, mainly for the reason that it is incoherent. It has no beginning, middle and end, no structure, no argument. May I suggest very strongly that you go to the Study Centre and make more enquiries about essay writing clinics...

INTRODUCTION

These comments made by lecturers on Paul's writing (not his real name) give us an insight into the problems faced by students working across different disciplinary traditions. Paul's main subject is history which he successfully studied at A level. He has received positive feedback on essays written in both history and politics, but his anthropology lecturer perceives his essay writing technique to be a problem. Through analysing what the student had written Lea and Street (1998) conclude that it is knowledge of how to argue and how to support his arguments with evidence *in anthropology* that is the issue for Paul, not general essay writing technique. Increasing numbers of inter- and multi-disciplinary courses mean that more students are struggling to get to grips with the writing expectations in several different areas.

In this chapter we consider some of the different strategies that you can use to help students recognise and produce the kinds of writing that are valued in different disciplinary areas. In Chapter 2 we outlined a range of techniques for helping students to improve their academic

writing in a general sense. Here we propose that students have greater control over their writing if they are helped by lecturers to develop an explicit awareness of how different disciplines employ different text types and how these text types construct and represent knowledge (both through their text structure and through their use of register).

Such an approach assumes that lecturers have an understanding of the role played by language in their discipline and that they have the time to develop this understanding in their students. Whilst recognising that this may be more easily achieved in partnership with writing or study skills experts, this chapter aims to help both lecturers and writing tutors identify important features of writing in particular disciplines. It also provides some practical teaching strategies. These are designed to provide scaffolding and guidance as students build their knowledge and understanding of a discipline and develop control of disciplinary forms of writing.

It is, of course, beyond the scope of this chapter to provide a detailed description of how language varies across each discipline and sub-discipline. Rather, we aim to provide an understanding of key linguistic differences and the most important types of writing that occur across four main discipline areas (see Figure 3.1). This highlights for all lecturers the varied roles that language plays both in their own general area of expertise and in the range of sub-disciplines that their students increasingly have to ‘write their way into’.

Figure 3.1 A categorisation of disciplines and their typical written texts

<i>Sciences</i>	<i>Social Sciences</i>	<i>Humanities/Arts</i>	<i>Applied Disciplines</i>
Examples include: physics, chemistry, biology, geology	sociology, geography, economics, politics, cultural and media studies, psychology	English, history, languages, classics, fine art, religious studies, nursing	business and management, philosophy, music, engineering, health and social welfare
Typical text types: ² <i>Laboratory reports,</i> <i>project proposals</i> and reports, fieldwork notes, essays, dissertations	<i>essays, project</i> <i>reports,</i> fieldwork notes, dissertations	<i>essays, critical</i> <i>analysis,</i> translations, projects	<i>essays, case</i> <i>studies,</i> dissertations, projects

Figure 3.1 shows a broad disciplinary categorisation and the typical types of writing carried out by students. We use this categorisation as a convenient way of grouping disciplines with certain similar characteristics, while acknowledging the complexity of demarcating disciplines and their affiliations. (For a more extensive discussion of the difficulties of making such categorisations and the fluidity within disciplinary areas see Becher and Trowler, 2001.) The overlap between methods and epistemologies in the various disciplines means that even within named disciplinary communities members often ally themselves with different overarching groups. Geography, for instance, which we have placed in the category of social science, could arguably have been categorised as a science or a humanities subject.

We use the disciplinary categorisation to focus on typical types of writing such as project proposals, essays and case studies. We highlight areas of similarity and difference between disciplines in terms of how they interpret different text types. For example, there is much overlap in the use of ‘essay’. We also examine how different registers are used to construct disciplinary identity.

We discuss in particular:

- academic knowledge as a continuum from the sciences to the humanities
- writing up project proposals and laboratory reports using examples from the sciences
- representing quantitative and pictorial illustrative material and discipline-specific terminology with particular reference to the social sciences
- the characteristics of the argument essay with an illustration from the humanities
- the characteristics of the case study illustrated by examples from applied disciplinary fields.

SCIENCES TO THE HUMANITIES: ACADEMIC KNOWLEDGE AS A CONTINUUM

In discussing disciplinary writing we start with the most obvious contrast – the so-called ‘harder’ sciences and the ‘softer’ humanities. MacDonald (1994) discusses them in terms of a continuum (Figure 3.2). The sciences, at one end, are empirically based – new knowledge is accepted on the

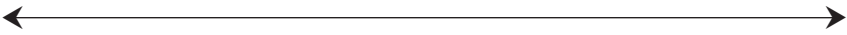
SCIENCES**SOCIAL SCIENCES****HUMANITIES**

Figure 3.2 The academic knowledge continuum

basis of often quantifiable experimental proof. The writing of science tends to reinforce this view with research articles foregrounding a gap in knowledge, a hypothesis related to this gap, and quantifiable experimentation and findings (Swales, 1981). Humanities subjects, on the other hand, are generally not quantitative in their methods. Knowledge about a subject is accepted or rejected on the basis of how well argued a case is. Between these are the social sciences which have adapted much of the scientific method and applied it to different and less predictable types of data. Claims in social sciences are often based on statistical analysis of probabilities. Alongside such a linear continuum are the applied disciplines that rest on science, social science or humanities foundations but are practical in their orientation.

While we cannot definitively categorise the types of knowledge that disciplines represent, we do know that different approaches to what constitutes knowledge in a subject area are usually implicit rather than explicit. As a disciplinary specialist you are *per se* an insider and know how to express disciplinary values in your writing. To be successful students too need to understand disciplinary knowledge *and* its influence on disciplinary writing.

Does the idea of a cline from the hard sciences to the soft humanities mesh with your view of your discipline? Would this be a useful construct to share with your students? Would you place your discipline in roughly the same place on the continuum as your students would?

In the next section we deal with examples of writing from the science end of the continuum where the types of texts students write are relatively tightly constrained. Such text types, however, are not restricted to science and the ideas discussed have wider relevance.

WRITING PROJECT PROPOSALS AND EXPERIMENTAL REPORTS: EXAMPLES FROM SCIENCE

For scientific writing to permit the close and independent scrutiny required by the scientific community, it must be both clearly written and easily read. Successful scientific writing therefore, is centred on the reader. To this end, it helps to look at scientific writing as both a product and a process – the production of highly structured documents through a systematised process.

(Goldbort, 2001: 22)

Goldbort's introduction to a new regular feature on effective writing in the *Journal of Environmental Health* highlights the 'highly structured' nature of much scientific writing. Writing in science is characterised by rigid expectations of particular text types. For example, the majority of scientific research articles follow the pattern below with only minor variations (based on Valiela, 2001: 131).

1	Title	6	Results
2	Authors	7	Discussion
3	Abstract	8	Acknowledgements
4	Introduction	9	References
5	Methods	10	Appendices

Research articles emphasise a clear line from recognising a gap in the understanding of some aspect of the natural world (introduction), through setting up an experiment and interpreting the results as filling that knowledge gap (methods and results, and discussion). There is little or no space in this type of writing for serendipity, the chance discoveries, or the discussion of blind alleys or alternative plausible research directions that are often the real social context in which research takes place. Many students need help in both understanding the conventions of science genres and in recognising them as disciplinary artefacts and not merely recounts of how something was achieved. Instead of providing a list of sections to be included in a scientific paper, we feel it is more helpful to indicate to students the functions of different sections and what should go into them.

In Chapter 2 we outlined the functional stages of the project report text type. In Activity 3.1 we go to an earlier part of the project process,

writing the project proposal. Below is the outline of the stages of a research proposal for a scientific study. What goes into each stage is elaborated in the description.

Activity 3.1 Functional stages of the scientific project proposal

<i>Functional stage</i>	<i>Description</i>
Title	This stage is a concise but accurate indication of what the project will be about, what is to be measured/investigated and how.
Introduction	Here the aim of your experiment(s) and the theoretical background is indicated. This will normally include a review of literature on what is known about the particular topic and how to investigate it. Indicating where there is a gap in knowledge or investigative procedures provides the rationale for the project.
Materials and methodology	This stage should begin with a list of materials and apparatus to be used. Diagrams to show how the experiment(s) will be set up may be useful. The methodology will have to demonstrate how the aims will be met within constraints on laboratory time, equipment and material. It should be very detailed in order to allow critical evaluation. The conclusions reached can only be considered valid if the research methodology is judged to be sound.
Methods of analysis	This section should show that you have considered what data you will have obtained and how you can best analyse it. If there are different statistical or other analytical techniques available, an evaluation should be given in order to justify your choice.
References	List all the sources referred to in the proposal. This shows what you have read and allows other people to find the sources if they need to.

Academic writing around the research process also includes keeping a laboratory notebook, doing calculations, calculating errors, plotting graphs and finally report writing. In addition to giving the functional stages of the report you can also remind students about specific aspects of report writing that are commonly omitted or mishandled. Figure 3.3 gives an example of advice for writing reports on scientific experiments, but the idea of such tips can be adapted for any discipline.

Figure 3.3 Tips for writing reports on scientific experiments

- 1 Preface your report with a short abstract.
- 2 Do not repeat obvious details and theoretical derivations that may be given as a background in the laboratory manual; just refer to them.
- 3 Mention all precautions and checks – you cannot get credit for them otherwise.
- 4 Discuss assumption, approximations, consistency of readings, random and systematic errors, limitations of apparatus, suggestions for improvements, abnormal behaviour, comparison of result with that expected, etc.
- 5 Draw well-labelled diagrams of apparatus. Drawings of specimens should be done initially at least in pencil, and should be large. Where necessary, you should indicate the scale.
- 6 Refer in the text to all tables and figures.
- 7 Every physical quantity calculated should have a unit, the correct number of significant figures, and an estimated error.
- 8 End your report with a brief summary of the conclusions you have reached from the experiment.

(Penz and Shott, 1988: 70)

If you are working with international students, or students who are less familiar with basic features of scientific writing, you can draw out the significant features and how they are expressed by comparing example texts. This is a useful prewriting activity which can be applied to many different text types.

Figure 3.4 shows an exercise written by an English language specialist as a result of collaboration with a discipline specialist.³ It contains two texts from an experiment to determine the density of a steel cylinder from its mass and diameter. Text A is part of the instructions given prior to carrying out an experiment. Text B is part of the procedure section of the final report. You can use parallel texts like this to get students focusing on differences.

Although the examples given here have been from science, which is the strictest disciplinary area in terms of writing structures, there is considerable overlap with other disciplines. Laboratory reports in psychology, for example, follow the same patterns as those in the sciences. In all cases the overt rhetorical purpose is to recount research experiments and results. A more hidden purpose, however, is seeking to persuade the reader of the validity of the report or claims.

Figure 3.4 Comparing similar texts

Text A – Instructions*Mass of the cylinder*

Determine the mass (m) of the steel cylinder using the balance and weights provided. First find the zero reading, that is the mass (m_z) which must be put into the right-hand pan to bring the pointer to zero when the left-hand pan is empty (it may be + or -). Then put the cylinder in the left pan and put weights into the right pan to bring the pointer to zero and obtain the apparent mass (m_a). Calculate the mass of the cylinder using the formula $m = m_a - m_z$.

NB Take care of the weights, lift them with the forceps and not the fingers, and always replace them in the proper receptacles immediately after use. Leave the pans clean and the beam supported off its knife-edges. The beam should rest on the knife edges only during the actual process of weighing and *not* when changing weights. The pointer reads zero when it swings an equal distance to either side of zero; it should *not* be stationary.

Text B – Procedure section

First the zero reading (m_z) of the balance was found. Then the cylinder was put in the left pan and weights added to the right pan to obtain the apparent mass (m_a). The smallest weight used was 0.01 g. Readings were taken with the pointer swinging slightly to avoid frictional effects.

In undertaking the comparison students are learning to identify common practices in writing procedure sections, such as:

- include only the most important steps
- only summarise briefly the precautions given in the instruction
- do not refer to the person doing the experiment
- do not include instructions about calculations
- give additional information if necessary to explain why certain steps were followed.

As a follow-up activity ask students individually or in pairs to read another set of instructions and write a succinct procedure section.

REPRESENTING DATA AND DISCIPLINE-SPECIFIC TERMINOLOGY: EXAMPLES FROM THE SOCIAL SCIENCES

Earlier we characterised most university disciplines as lying on a continuum from the sciences to the humanities. The writings and practices

of social sciences are often characterised as a hybrid of the social – the humanities – and the scientific (Wignell, 1998: 298). Writing practices in the social sciences can therefore share characteristics with both the sciences, for example the use of quantitative data and statistical analysis, and the humanities, for example the use of text types such as the essay. This mixture is reflected in the discipline of geography, which in some institutions is classified as both a humanities and a science subject. We use geography here as a useful exemplar of a discipline straddling the old science-arts boundaries.⁴ We look at two key features of texts in geography and social sciences more generally – first, *multimodality*, that is, the combining of text with tables, diagrams and maps, and second, the use of discipline-specific terminology.

Writing multimodal texts: using illustrative material

The main text types written by undergraduate social sciences students are the essay and the project report; both, along with other written tasks, may feature quantitative data. These data may be the result of experiments and physical measurements or the compilation of economic and social statistics, and appear in texts in the forms of tables, graphs and maps. Such data do not necessarily have a specific location; instead, they are tied closely, physically and rhetorically, to the arguments or theories being discussed. Students often need guidance in learning how to set out numerical or pictorial data, understanding how to incorporate them, and knowing when they are appropriate or necessary.

In many disciplines the use of visual representations of data or processes is common. Maps allow detailed information to be depicted in relation to particular places in an efficient way. Tables of figures allow the inclusion of data about which assertions are made. Students have seen such integration of text and visual material in school textbooks where photographs, line drawings, graphs and tables are used. At university level they must learn to reproduce or create a variety of visuals in order to support their written texts. They can benefit from advice ranging from choosing and using suitable software packages to discussing the role of illustrative material as evidence in essays or reports.

You can encourage students to make more than a passing reference to visuals by highlighting the functions they fulfil and the conventions

Figure 3.5 Guidance on using illustrative material

Graphs, pie charts, tables, schematic diagrams, photos and maps are often used to make points more clearly, effectively or succinctly than they can be made in words.

- They supplement rather than duplicate text.
 - They must be relevant and discussed in the text.
 - Figures and tables should be located as close as possible to the point in the text at which they are discussed and not generally in appendices.
 - Graphs, diagrams and maps should be referred to as 'Figures'. Tables and word charts are referred to as 'Tables' and photographs as 'Plates'.
 - Illustrative material should be large, comprehensible and self-contained, legible, customised to your work (re-drawn if necessary), correctly identified with sequential Arabic numerals, and correctly attributed if appropriate.
 - Titles should specify the subject of the illustration, its location, and the time period to which it refers (e.g. Vietnamese-born population as percentage of total population, Adelaide Statistical Division, 1996).
 - Maps and diagrams should have a complete and comprehensive key.
 - Labelling should be neat, legible, and relevant to the message being conveyed.
-

they embody. Figure 3.5 illustrates how this was done for geography and environmental science students.⁵

As well as guidelines such as those in Figure 3.5, you can also integrate discussion directly into your work with students. Activity 3.2 is an example of a short tutorial activity to critically discuss the use of a graph.

Discipline-specific registers

An important aspect distinguishing academic writing in different disciplines is the choice of register and particularly the choice of certain vocabulary. Both the sciences and social sciences make considerable use of specialised terminology, often to develop classification systems with which to describe and explain the world. Some of this terminology may overlap with words in common usage or may be used in other disciplines but some is discipline-specific. Making sure that terminology is clearly understood is often a concern for us as markers of students' work either because the terms themselves embody difficult concepts, or because they are open to different interpretations. If you require students to define or explain terms make this requirement explicit and provide examples of how to do this. An

Activity 3.2 Tutorial examining the use of a graph

Look at the text extract and bar chart and consider these questions.

- 1 Is there too much or too little detail on the graph?
- 2 Are the information sources clear?
- 3 What conclusions can be drawn from the graph?
- 4 Will the inclusion of the graph support the points being made in the text?
- 5 Is the graph too complex or too simplistic as a representation of the data?
- 6 Would a different form of graph or other illustration have been more appropriate?

The marginally higher rate of suicides in rural areas (see Figure 1) is associated with the easy availability of firearms. The necessity of killing vermin and predators on farms means that guns are an obvious choice for the suicidal and are associated most often with male suicides.

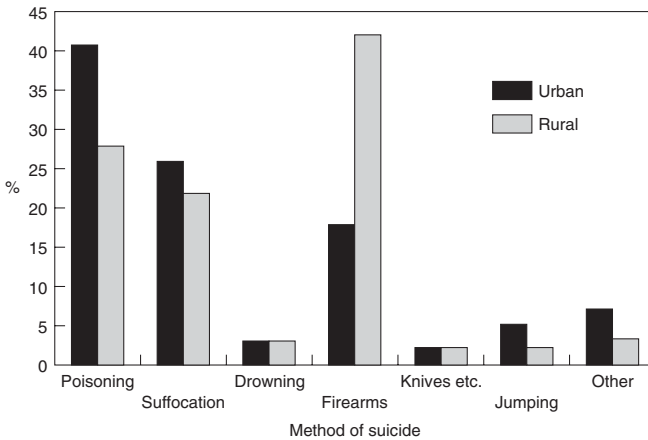


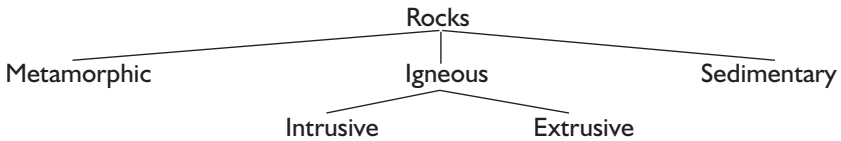
Figure 1 Methods of suicide by rural/urban location, Australia (1987–91)
Source: Australian Bureau of Statistics, 1994: 59.⁶

There are a number of points that students may note in this example.

- The information in the graph is clearly displayed, including labelling on both the axes, a key and title.
- The origin of the statistics on which the graph is based is specified.
- The graph is referred to in the text.
- It supports the point on differences between rural–urban suicide rates.
- It does not directly justify the reasoning about the easier availability of firearms in rural areas, nor is there any information about a male–female difference in methods of suicide. These points would need supporting with other evidence.

Activity 3.3 Defining and classifying using discipline-specific language

Geographers frequently discuss both physical and human features in terms of classifications, as in the example of rock types below.



Using Extracts A and B below:

- 1 Draw a classification system for *weathering* and *communal housing*.
- 2 In groups consider why these writers have chosen to define and classify these features.

Extract A

Sparks (1986) defines weathering as ‘The mechanical fracturing or chemical decomposition of rocks in situ by natural agents at the surface of the earth’. However, a distinction can be drawn between ‘normal’ and accelerated’ rates of weathering (Cooke and Doornkamp, 1990).

Extract B

A major challenge facing contemporary industrial societies is how, and by what means, to construct appropriate housing arrangements to meet the needs and demands of the dependent ageing population (Tinker, 1992). One response has been the development of a variety of forms of *communal housing*. This is a broad term which encompasses a diversity of housing types which are specially designed to accommodate a group of elderly people, living together and sharing a number of communal facilities. The two most significant types of communal housing for the elderly are *sheltered homes* and *residential care homes*.

It is important to recognise, however, that the above definition is somewhat arbitrary, largely due to the existence of varying levels of communalism. First, not all forms of sheltered housing and residential care cater specifically for the elderly. For example, the Registered Homes Act 1984 defined residential care as ‘any establishment which provides or is intended to provide residential accommodation with both board and personal care for four or more persons in need of personal care by reasons of old age, disablement, past or present dependence on alcohol or drugs, or past or present mental disorder’ (quoted in Sinclair, 1988: 243). Second, the term *residential care* actually incorporates other forms of communal housing such as psychiatric homes and nursing homes. Finally, not all sheltered housing schemes can be classified as communal, because some schemes cater for just one elderly person.

In Extract A, a definition is quoted from a published source, but this is only used as a starting point as the student indicates that greater clarity is achieved by distinguishing different types of weathering. The writer then focuses on just one form of weathering, classifying it in greater detail. In Extract B, the student is careful to specify the meanings of certain terms in the context of the discipline, geography. These terms in common use might well be defined differently in other disciplines.

example of modelling defining strategies and extracting classifications from texts is given in the form of a discussion in Activity 3.3.

This discussion of the social sciences has drawn on aspects of writing in geography which come from both social and scientific backgrounds. The use of technical language and classification systems is similar to that found in sciences such as biology and geology. Defining and classifying take place mainly within the argument essay, a text type originally associated most strongly with the humanities. Writing in the social sciences can therefore be described as a hybrid form using the argument essay but containing classificatory systems of organisation and visual and numeric illustrations and data which are associated with sciences. If you are working in the social sciences, you might consider how well your students are coping with combining practices from the sciences and the humanities to create the types of texts required in your discipline, particularly if their background is predominantly *either science or humanities*.

WRITING AN ESSAY: AN EXAMPLE FROM THE HUMANITIES

Writing an essay is a widespread form of assessment particularly in the humanities and social sciences. However, as Chapter 2 discussed, *essay* can be a misleading term in that it covers a wide variety of purposes. Typically, according to the discipline area, a lecturer, when asking students to write an essay, has a particular purpose in mind. For example, in English, students may be required to interpret the ‘message’ or themes of a literary text and support their interpretation through reference to the text as well as to literary critics. In history, on the other hand, students are frequently expected to evaluate the plausibility of an interpretation of past events and to draw on documentary sources as evidence for their argument.

Activity 3.4 What makes an argument essay persuasive?

When you are asked to write an argument essay, lecturers in different disciplines may expect you to do things differently. In history what do you think the expectations are?

Answering the following questions will help you to think this through. In some cases you may want to modify an answer or tick more than one response.

- 1 When do you make clear your own point of view?
 - (a) at the beginning of the essay
 - (b) at the end of the essay
 - (c) You don't need to have your own point of view.
- 2 How do you express your point of view?
 - (a) explicitly by using expressions such as *I think, in my view, in my opinion*, etc.
 - (b) implicitly by using expressions such as *it can therefore be argued that, from the evidence it is clear that x is a plausible interpretation, an analysis of the evidence above shows that*, etc.
 - (c) a combination of (a) and (b).
- 3 Do you need to incorporate other points of view into your essay?
 - (a) No, because that will weaken your own argument.
 - (b) Yes, you need to present an even, balanced presentation of different points of view or perspectives.
 - (c) You need to incorporate points of view that differ from your own in order to avoid making your argument too simplistic. However, counter-arguments need to be weakened where they may undermine your own position.
- 4 What kind of evidence do you need to draw on to support your arguments?
 - (a) citing expert voices
 - (b) referring to quantitative data
 - (c) drawing on your personal or professional experience
 - (d) documentary evidence
 - (e) referring to qualitative data
 - (f) incorporating pieces of literary texts (e.g. books, poems).
- 5 How should evidence be used?
 - (a) It must be selected in relation to the sub-arguments and counter-arguments.
 - (b) It must be explicitly linked to the sub-arguments and overall argument (e.g. *The evidence above strongly suggests that ... Rowley's (2001) analysis shows how important x is*).
 - (c) It must be critically analysed.
 - (d) It must carry authority within the field.
 - (e) You need to develop a stance on the evidence e.g. *Doyle claims that* (where claim weakens the evidence) as opposed to *Doyle shows that* (where the stance is relatively neutral).

-
- 6 What makes an argument essay convincing?
- (a) selection of evidence
 - (b) length of the argument
 - (c) how neutral you are in terms of selecting evidence and presenting all points of view.
 - (d) acknowledging alternative points of view
 - (e) not acknowledging alternative points of view
- 7 What should the overall style of an argument essay be?
- (a) You should sound authoritative and adopt the voice of a professional historian.
 - (b) You should communicate your own personal identity and 'voice'.
-

Despite these differences, essays typically require a form of argumentation in which the student is expected to put forward an overall argument or point of view and then 'prove' the argument by drawing on supporting evidence. In Chapter 2 one type of argument structure was considered. In this section, we extend our discussion of what we mean by *the argument essay* by considering additional ways of 'building a case'. In particular we draw attention to how writing an argument can vary not only across the major disciplinary areas but within the humanities themselves. Thus, whilst drawing on history to exemplify our points, we suggest strategies for raising students' awareness of how argument essays function differently in different discipline areas.

As a starting point, the awareness-raising task in Activity 3.4 could be used with your students as a means of generating a discussion about the kinds of written argument strategies that are valued within your discipline area.

Responding to and discussing the questions in Activity 3.4 will highlight the different ways in which disciplines favour different forms of argumentation. For example, with regard to forms of evidence, whereas history students typically cite the views of expert historians and draw on primary and secondary sources,⁷ English students generally incorporate sections of literary text to support their points of view. Beyond the humanities, evidence frequently includes quantitative data. In the social sciences for example, we saw in the previous section how graphs and statistical findings may be integrated into students' arguments.

In relation to text structure, argument essays are often organised in one of three ways. Figure 3.6 shows the functional stages of each type. The structure referred to as *exposition* was introduced in Chapter 2. As discussed there, a writer may initiate an argument essay by stating a

Figure 3.6 Three ways of structuring an argument essay

<i>Argument structure</i>	<i>Exposition</i>	<i>Discussion</i>	<i>Challenge</i>
Rhetorical purpose	To put forward a point of view or argument	To argue the case for two or more points of view about an issue	To argue against a point of view or argument
Functional stages	Background Overall position/ argument Sub-arguments and supporting evidence (counter-arguments) Reinforcement of overall position/ argument	Background Issue Sub-arguments and supporting evidence Overall position/ argument	Background Position challenged Rebuttal of sub-arguments and supporting evidence Overall position/ argument

position and then put forward a series of arguments and evidence which generally supports the position. Counter-arguments and evidence may be acknowledged so that the writer does not appear overly simplistic or polemical. (Because the counter-argument stage is not obligatory it is placed in brackets.) The writer reinforces the position in the final stage.

The starting point of a *discussion*, on the other hand, is a controversial issue. The writer explores the issue from two or more perspectives before reaching a position in the concluding section. The starting point of a *challenge* is to state the position which will be argued against. A series of rebuttal arguments and supporting evidence then follow. Finally, the writer puts forward the overall argument or position.

Although some disciplines may favour one argumentative structure over another, the three structures shown in Figure 3.6 – exposition, discussion or challenge – commonly occur across the humanities and the social sciences. They may also occur within the applied disciplines, particularly in areas such as education and business studies. It is more in relation to forms of evidence and register that disciplinary variation emerges. If the argument essay is a text type that your students are required to produce, it may be interesting to consider whether they tend to produce expositions, discussions or challenges and whether you respond more favourably to one type rather than another.

As a means of making argument structures explicit and showing how each functional stage contributes to the overall rhetorical purpose, we have analysed a student essay below. We have only taken the main sections of the essay. However, you may like to apply the framework to carry out a comprehensive analysis of an argument essay in your discipline. For example, you could analyse one of your student's essays or a model essay you have written. Using an overhead projector, the structure of the argument could be discussed and evaluated as part of a lecture or tutorial. It may also prove helpful to illustrate how a less successful argument has been structured. Very often, for example, the main argument is unclear or the relationship between it and the sub-arguments and evidence is not obvious. Drawing arrows to show relationships (or their absence) is a concrete way of showing students what is meant by *coherent, relevant, logical*, terms that otherwise may remain elusive.

In the sample abridged (successful) argument essay (Figure 3.7), the stages are labelled in italic face (e.g. *overall argument, sub-argument*) and arrows show how the different stages of the essay link together. For example, the first arrow shows how sub-argument 1 (that personalities in France played an important role in shaping the revolution) directly relates to the overall position (that personalities in France and Russia were more influential in determining revolution than were ideologies).

As you read the essay also consider the types of evidence the history student draws on and the ways in which these compare to the forms of evidence typical in your discipline. The essay was written in response to the question:

Revolutions are shaped more by dominant personalities than by ideological considerations.

How far does your study of revolutions show this to be the case?

In your answer refer to revolutions in:

Either France and Russia

or

China and Cuba

Incorporating evidence into an argument essay

The sample history essay exemplifies the way in which history students can draw on an exposition text structure to debate complex historical

Figure 3.7 Arguments and evidence in an abridged history essay (New South Wales Board of Studies, 1991: 82)

Overall argument/position

It is clear that the course of revolutions is determined more by the behaviour and actions of personalities at the head of the revolutions, rather than by a set of ideologies. Revolutions are also shaped by the actions of social groups who are led or opposed by these personalities. The influence of personalities in both France and Russia overshadowed the numerous, sometimes abandoned ideologies of those two revolutions.

Sub-argument 1

In France, the influence of personalities such as Robespierre and later Napoleon had a large impact on shaping the revolution. Whilst the events of 1789 were caused to a large extent by the frustration of the peasants and sans-culottes, the actions of the leading revolutionaries once power was established was crucial to the outcome of the revolution.

Counter-argument 1 and evidence

W. Doyle (Oxford History of the French Revolution) claims that the influence of the population at the Bastille was most important. Doyle states that the people were convinced that they had saved the National Assembly on July 14th...

Evidence for sub-argument 1

The actions of these two dominant personalities of the French Revolution overshadowed the ideology of the Revolution, symbolised in the declaration of the Rights of Man and the Citizen in August 1789. Doyle shows that even Robespierre's reliance on his ideology of Virtue, as derived from the writing of Rousseau, was perverted in the end...

Sub-argument 2

Ideology in the USSR also seemed to be overshadowed by the presence of dominant personalities such as Lenin, Trotsky and Stalin, who were willing to abandon their ideology in order to keep alive the Socialist experiment...

Evidence for sub-argument 2

Stalin was perhaps the most dominant personality in the history of the USSR. D. Christian describes his 'great retreat' away from ideals, characterised by the new working-class elite and nomenclature. Stalin's increasing reliance on traditional military discipline was a result of his own personality. The Terror of the purges from 1936–38, claims T. Skocpol (Stalin and Social Revolution), was used to establish and maintain Stalin's own personal dictatorship...

Reinforcement of position/overall argument

In both France and Russia, the dominant personalities of the two revolutions had a much larger influence in shaping the revolutions than revolutionary ideologies, primarily because the survival of both revolutions depended on the temporary casting off or destruction of existing ideological considerations.

interpretations. As we have emphasised, such a structure is not unique to history or the humanities. Nevertheless, despite the commonality of argument structure, the basis on which the student persuades the reader of the validity of the argument – the evidence, in other words – is noticeably different to that of, for example, geography. This point raises the question of how to help students produce an effective argument not only in terms of overall structural organisation but also in terms of integrating evidence which is appropriate and persuasive within a particular disciplinary context. One possible strategy is illustrated in Activity 3.5. It could be adapted for any disciplinary context. In Part 1 of the activity students examine the importance of secondary sources in strengthening an historical argument. In Part 2, the aim is to draw students' attention to the way in which words and phrases referring to historical sources can fall along a continuum of *less endorsing* to *more endorsing* terms (Figure 3.8). Their different choices can be discussed in this light. The activity heightens students' consciousness of the need to interpret and develop a stance on the evidence referred to and how this can be achieved subtly through choice of verbs and other referencing phrases. Although in this book we do not have space to reproduce the entire essay, in your own teaching context, you may want to use two complete essays for each part of the activity. It would also be important to choose essays addressing the disciplinary knowledge and issues that are relevant to the particular group of students.

Illustrated in Activity 3.5 is a text-based approach to teaching disciplinary forms of written argumentation. Alongside an exploration of disciplinary content, the approach emphasises understanding how different linguistic forms at the level of text structure (e.g. choice of argument structure) and register (e.g. choice of words and phrases) actively shape and create interpretations of knowledge rather than merely carrying content. Although in theory such an approach could be applied to all discipline areas, it requires decisions to be made about which written text types play a key role in a specific discipline. It also requires linguistic analysis of the selected text types as a means of making explicit the way knowledge is organised and represents the beliefs of the disciplinary community.

Activity 3.5 Developing a stance on evidence

Part 1

Read the argument essay below. It was written by a student, under exam conditions, in response to the question: *Revolutions are shaped more by dominant personalities than by ideological considerations. How far does your study of revolutions show this to be the case?* Then read it again and underline all the references that the writer makes to secondary sources as we have done in the first two examples. For each reference decide how the source is supporting or countering the writer's main argument.

It is clear that the course of revolutions is determined more by the behaviour and actions of personalities at the head of the revolutions, rather than by a set of ideologies. Revolutions are also shaped by the actions of social groups who are led or opposed by these personalities. The influence of personalities in both France and Russia overshadowed the numerous, sometimes abandoned ideologies of those two revolutions.

In France, the influence of personalities such as Robespierre and later Napoleon had a large impact on shaping the revolution. Whilst the events of 1789 were caused to a large extent by the frustration of the peasants and sans-culottes, the actions of the leading revolutionaries once power was established was crucial to the outcome of the revolution.

W. Doyle (Oxford History of the French Revolution) claims that the influence of the population at the Bastille was most important. Doyle states that the people were convinced that they had saved the National Assembly on July 14th ...

The actions of these two dominant personalities of the French Revolution overshadowed the ideology of the Revolution, symbolised in the declaration of the Rights of Man and the Citizen in August 1789. Doyle shows that even Robespierre's reliance on his ideology of Virtue, as derived from the writing of Rousseau, was perverted in the end ...

Part 2

Read the next few sections from the student's essay on revolutionary influences. You will notice that a number of words/phrases have been blanked out. These missing words and phrases all refer to, and integrate, primary and secondary sources. Fill in the blanks by choosing appropriate words and phrases. Your choices should strengthen the overall argument. You may wish to look at, and choose from, the words and phrases in Figure 3.8. (Note, however, that the precise meaning of these terms may be dependent on the context.) Some phrases have been completed as a guide.

Ideology in the USSR also seemed to be overshadowed by the presence of dominant personalities such as Lenin, Trotsky and Stalin, who were willing to abandon their ideology in order to keep alive the Socialist experiment.

Much of Lenin's success in 1917 can be attributed to, as S. Smith (Red Petrograd: Revolution in the Factories 1917) (points out), his 'Bread, land, peace' programme of the April Theses. However, upon ascension to power in October of that year, the Bolsheviks realised that they had to substitute their ideology for pragmatism if they were to defeat the counter-revolutionaries and Interventionists from 1917–20. D. Christian (Power and Privilege) (claims) that Lenin's personality and leadership were most responsible for the success of the Bolsheviks in the Civil War. The need for a new coercive machinery during this period was granted by the implementation of the CHEKA, which, S. Fitzpatrick (The Russian Revolution), was the first instrument of the terror. Although the use of terror was in opposition to Marxist ideology on the overuse of coercion, it was leaders such as Trotsky who were able to channel Terror into Red Army victories. (His execution of commissars is the prime example.) A. Ulam (A History of Soviet Russia) (states most clearly) the Bolsheviks' abandoning of their ideology for the need for strong leadership by the dominant personalities of Trotsky and Lenin. Ulam that the Bolsheviks had to abandon their 'millenarian expectations' and that their democratic scruples atrophied during the tenacious struggle to maintain power.

Stalin was perhaps the most dominant personality in the history of the USSR. Christian his 'great retreat' away from ideals, characterised by the new working-class elite and nomenclature. Stalin's increasing reliance on traditional military discipline was a result of his own personality. The Terror of the purges from 1936–38, T. Skocpol (Stalin and Social Revolution), was used to establish and maintain Stalin's own personal dictatorship.

Opposed to the dominance of personalities in the USSR was the lack of influence of ideology. Christian that war communism was disastrous, because it represented a mixture of ideology and pragmatism. Apart from the abandoning of ideology during the Civil War years, Ulam the rehabilitation of the profit motive by NEP in 1921 as proof of the Bolsheviks' perversion of their own ideological considerations. The era of Stalin was also marked by perversion and in some cases destruction of existing Soviet ideology. Skocpol Stalin's denouncement of the 'petty bourgeois egalitarianism' of equal wages, whilst Christian the allowing of the 'Sobor' in 1943 as another about-face, this time over the question of religious freedoms.

In both France and Russia, the dominant personalities of the two revolutions had a much larger influence in shaping the revolutions than revolutionary ideologies, primarily because the survival of both revolutions depended on the temporary casting off or destruction of existing ideological considerations.

Figure 3.8 A continuum of less endorsing to more endorsing terms for referring to sources

less endorsing	—————→	more endorsing
claim	comment	affirms
contend	say	confirms
suggest	report	agree
argue	state	concur
in x's opinion	declare	make clear
believe	point out	maintain
think	announce	
reckon	cite	
assume	note	
presume	observe	
speculate	write	
x goes so far as to	tell	
suggest that	describe	
propose	put forward	
	explain	
	make the point	
	postulate	
	theorise	
	posit	
	predict	
	see	
	in the view of	
	according to	

To what extent do you feel such an approach is practical in your discipline area? What would be the advantages of adopting some of the techniques illustrated? What might be some of the difficulties? Are there departments or centres in your institution that might provide support for developing such an approach?

WRITING A CASE STUDY: AN EXAMPLE FROM BUSINESS STUDIES

Having looked at some of the key language features that distinguish writing in science, the social sciences and the humanities, we now turn to applied disciplines and explore how written texts in this domain reflect different ways of building and shaping knowledge. Although many of the applied disciplines (such as business studies, law, health and social

welfare) require students to write argument essays, we focus on the *case study* as it is pivotal in fulfilling one of the main purposes of the domain – the integration of theory with professional practice.

So far in this chapter we have explored the prototypical structures of the research project proposal and the argument essay and their role in achieving the purposes of different discipline areas. In history, for example, the overarching goal is to persuade the reader of a particular interpretation of past events. In business studies, as an example of an applied discipline, the goal is rather more complex. Part of this complexity lies in the common requirement that students write for a dual readership: a real-world audience and an academic assessor. Let us take an example of an assignment in business studies:

Draw on one of the frameworks for analysing business strategy which you have encountered on the course and make an assessment of an organisation you are familiar with. Write a case study to illustrate your findings, and make some recommendations that would be useful to your business colleagues.

These instructions make it clear that students are expected to envisage two audiences: a) the lecturer who will assess their work; and b) real or imagined business colleagues.

The assessment task requires students to apply theoretical knowledge (i.e. an understanding of an analytic framework) to a professional situation. Therefore the underlying educational rationale for the assignment is twofold – to assess students' understanding of disciplinary theory and to evaluate their ability to put theory to practical use in a manner that is accessible to – and appropriate for – business colleagues. Not surprisingly, the degree to which both these aspects are assessed and the weighting attached to each dimension is not straightforward. This issue is discussed in greater detail in Chapter 4. Here we focus on the linguistic features and strategies that students need to control to produce a successful response.

First, let us consider the overall structure of a written case study. Though *case study* is, like *essay*, a rather imprecise term and includes a number of different forms of writing each with a distinct structure, in broad terms, its overall rhetorical purpose can be described as *reporting on research and arguing a case*. Generally, the case study consists of four main functional stages:

Background

Analytical Framework/Approach to Study

Findings

Implications for professional practice

(Recommendations – optional)

Figure 3.9 provides students with an explanation of each of the stages, highlighting problem areas. You might use this resource with your students as a means of reflecting on the difficulties of writing a case study. You may also adapt it to capture the kind of structure that you would expect from students writing up a case study in your discipline.

Having considered how far the functional stages outlined in Figure 3.9 match those of case studies that you are familiar with, three questions to contemplate here are:

- What kinds of tension are students likely to experience when writing for two distinct audiences?
 - What might be the consequences for both the text structure and register?
 - What types of teaching strategy could help students resolve such issues?
-

Raising awareness of professional and academic styles of writing

Asking students to shape information in order to meet, simultaneously, the conventions of the academic and the business (or professional) community often leads to unsatisfactory assignments that fail to meet the expectations and conventions of either audience (Hewings, 1999b). In this section we explore strategies for raising students' awareness of the role that language plays in managing the needs of a dual readership. In particular we look at ways of avoiding an overly personal and anecdotal style when drawing on professional experience.

One helpful strategy is for students to compare the styles of different types of journal article. This is a particularly valuable exercise in postgraduate programmes where students are frequently encouraged to read both journals aimed at practitioners and journals whose primary audience is academics. Whereas the former tend to employ a personal and engaging style (particularly in contexts such as business), the latter follow more traditional academic conventions of presenting objective and impersonal accounts. Thus, aside from the actual design of assessment

Figure 3.9 The functional stages of a case study

<i>Functional Stages</i>	<i>Description</i>
Background	In this stage the area of the organisation/professional situation that would benefit from closer analysis is outlined. A broader context for the study may need to be provided in that the marker (the lecturer as opposed to colleagues) may not be familiar with the organisation/professional situation featured (e.g. its structure, goals and culture).
Analytical Framework or Approach to Study	One of two stages are chosen at this point, depending on how far the text is oriented towards the 'academic assessor' as opposed to the 'business colleague/professional audience'. If the latter, approach to study is the appropriate stage. In this functional stage, the theoretical approach is explained in non-technical terms and is made meaningful to a professional as well as an academic audience. If writing primarily for an academic assessor, analytical framework is the appropriate stage. This stage provides a detailed explanation of, and rationale for, the selected framework of analysis.
Findings	In this stage the main findings of the application of a theoretical model to a professional situation are highlighted.
Implications for Organisation	The goal in this section is to interpret the findings particularly in terms of the insights they provide into the aspect of the organisation/profession under focus.
Recommendations	The overall function of this stage is to put forward suggested action points based on an assessment of the situation arising from the interpretation of the information collected.

tasks, the kinds of writing students are exposed to, and which they often perceive as exemplary writing, may lead them to develop a confused style in which academic and professional 'speak' are fused together. Students therefore need guidance in focusing on the kind of relationship developed between writer and reader, the level of formality created and the type of information foregrounded.

Another useful strategy is to ask students to focus on samples of their own personal writing which can then be compared with more formal, rewritten extracts, as in Activity 3.6.

It is important that students understand both the ideological and functional dimensions of the use of first person pronouns (see also the

Activity 3.6 Comparing student voices

Compare the following two pieces of writing.

Extract 1

‘Corporate philosophy’. What’s that? When I heard about this term, I almost screamed. Can a corporation have a philosophy? What does the corporate philosophy stand for?

Extract 2

‘Corporate philosophy’ is a term that needs to be defined in terms of what is meant by philosophy within a corporate environment. I think it is important to debate whether or not a corporation can actually have a philosophy.

In Extract 1, draw students’ attention to the way questions are used to develop a dialogic style between writer and reader. Although the reader cannot directly reply to the writer, the use of questions engages the reader and writer in considering the issue together.

The use of first person pronouns, the colloquial use of *that* and *this* and the inclusion of the writer’s emotional reaction (*I almost screamed*) contribute to a familiar, personal style. Finally, the inclusion of *I* takes up the prominent first position in two clauses (*When I...* and *I almost...*) and thus draws attention to the student’s personal responses and reactions rather than to the topic under discussion.

Extract 2, in contrast, illustrates how the writer’s subjective voice can be integrated into a traditional academic style.

section on Register in Chapter 2). Currently, some members of various academic disciplines are beginning to question the way in which writers and researchers – and the subjectivity of their views – have traditionally been made invisible in written texts. In some cases, the explicit and direct intrusion of the writer into the text is a useful reminder that knowledge is mediated by human beings operating in particular historical, cultural and social contexts. On the other hand, it is also useful for students to be aware of how the overuse of *I* or *we* can have a negative effect on the conceptual development of an essay. For instance, the use of *I* may draw attention away from the phenomenon under examination and interrupt the flow of information.

In summary, the applied disciplines make different writing demands than the sciences, social sciences or humanities in that they frequently require students to integrate theoretical frameworks with professional practice. This can create tension in students who may have learned to

write effectively for academic and professional audiences but who may face problems in integrating the two styles. We have shown how it is often helpful to provide students with models of writing with contrasting registers. Such models can be used to develop students' awareness of how the use of grammar and vocabulary produces different effects. Students can learn to write with a voice that is more or less personal or impersonal, more or less subjective or objective.

CONCLUSION

This chapter has illustrated a variety of text-based techniques that can be used in the teaching of disciplinary forms of disciplinary writing. Many of the teaching strategies and activities aim to raise students' consciousness of how texts can be structured to achieve the goals of the assessment task (and in a wider sense, the goals of the particular discipline). You will have seen how language choices (such as the use of technical terms or personal pronouns) actively shape and create interpretations of knowledge rather than merely carrying content.

Let us return to the initial scenario where we saw how the move towards greater multi-disciplinarity has caused difficulties for students such as Paul. How might the approaches discussed in this chapter be of use in such a context? Primarily, it can be argued, as Ball *et al.* have (1990: 357), that, as lecturers, we need to be consciously aware of how disciplines are defined by a 'complex and diffuse conjunction of objects, methods, rules, definitions, techniques and tools'. They conclude, as a consequence, that students need to be 'in control of specific field conventions, a set of rules and methods which mark the discourse as belonging to a certain discipline' (Ball *et al.*, 1990: 357).

It seems then that lecturers need to provide students with as much scaffolding and guidance as possible to develop their understanding of how text types and register are central to the ways in which disciplines are distinguished. More importantly students need to be shown how these disciplinary differences are tied to the overall goals of a discipline and its particular traditions and methods.

NOTES

- 1 Based on a case discussed by Lea and Street, 1998.
- 2 Text types dealt with explicitly in this chapter are shown in *italic*.

- 3 Published in Dudley-Evans, 1985: 20.
- 4 Physical geographers have traditionally seen themselves as part of the scientific community. Human geography is more problematic, often located within humanities, arts or social sciences faculties.
- 5 The advice in Figure 3.5 comes from a book written by a geographer, Iain Hay (1996). Discipline-specific advice on aspects such as using diagrams, statistical data and illustrations is often available in specialist books aimed at students, e.g. Penz and Shott, 1988.
- 6 Graph re-drawn from Hay, 1996: 67.
- 7 In history, primary sources refer to documentary and other types of evidence produced around the time of an historical event. Secondary sources refer to documents written by historians.