A collaborative approach to integrating the teaching of writing into the sciences in a New Zealand tertiary context.

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Abstract

The research question examined in this thesis is: "how can we effectively teach writing in the disciplines?" During the development of the research two subsidiary questions were included: "can writing in the disciplines be taught effectively through the combined expertise of writing specialists and subject specialists?" and "is action research an effective method of empowering academic staff as teachers of writing?" New Zealand universities, to date, have taken a very limited, generic approach to teaching or researching writing in the disciplines. This research makes a major innovation by bringing a writing teacher into collaboration with academic staff from the applied sciences to develop a programme whose objective was to teach the genres and styles of applied science writing to students in that discipline.

The thesis focuses upon three writing projects. All three took place in the Faculty of Agricultural and Horticultural Sciences at Massey University between 1993 and 1996 and took their inspiration from the writing across the curriculum movement. Project one involved the development of a Communication in Applied Science paper for first year students. Project two was a departmental writing across the curriculum programme aimed at integrating the teaching of writing into content courses. Project three involved integrating writing into the fundamental pedagogy of a single paper in horticulture. The project teams used action research as a method of developing and evaluating their programme. Action research was chosen as an appropriate methodology because it combines research with practical action, takes place in a real rather than an ideal context, provides a process to implement and monitor change, and allows for effective collaboration and ownership of the project.

The projects have had the following key outcomes. Action research provides a successful methodology for integrating writing into the disciplines. Collaboration between academic staff and a writing consultant can offer a fully viable means of teaching writing in the disciplines. An institutional context of support and

rewards for innovative teaching can enable staff to gain confidence as teachers of writing and understanding of writing in the disciplines. Student attitudes to writing and communication skills become more positive when the genres taught are professionally relevant, the importance of communication is modelled by credible sources, and writing support facilities are available. Finally, writing should be integrated into the pedagogical schema of a course at its inception, rather than being superimposed upon existing courses.

Acknowledgements

To say that I couldn't have completed this work on my own is an understatement, as anyone reading this thesis will immediately appreciate. This was my first venture into conducting research with people and in groups – until now, my research had been largely confined to nineteenth century poetry. Working with groups required quite different skills than those I was used to employing, and the frustrations and the joys of this are, I'm sure, embedded in my text. It is with considerable depth of feeling, therefore, that I take this opportunity to thank those who either engaged in the process with me or supported me along the way.

My first debt is to my supervisors, Associate Professor Russell Poole, Professor John Codd and Associate Professor Robyn Munford. Their perceptiveness and thoughtful assessment of my work was invaluable, and I would especially like to thank Russell for listening to my excited descriptions of my experiences, for venturing his considered opinions whenever I stopped talking long enough for him to do so, and for his courage in stepping, with me, outside the safe bounds of English literature. I'm sure there were times when he wondered exactly what he had let himself in for – but if he did, he never showed it.

I would like to acknowledge the work of a number of people who I consider to be real 'pioneers' in their work with writing at Massey University. Janet Holst and Karen Rhodes have, over the last few years, taken on the challenging job of introducing the study of academic writing into the university curriculum: I have a real debt to both Janet and Karen because, without their work, the questions which started this study would never have been asked. A special thank you to Karen who has always taken such a supportive interest in my work.

Robert Neale and Professor Roly Frean were the earliest pioneers in this field at Massey University. In 1979 I was one of the bemused, hapless students enrolled in the first year of their writing course – it was an experience never to be

forgotten and instilled in me (amongst other things) a curiosity about language which has stayed with me and is, I'm sure, the bedrock of this study.

I have commented in a number of places in this study on the ways in which universities do not support research into writing and on the way staff in learning centres are actively prevented from conducting research. While these conditions do apply at Massey University, I have been very fortunate in the number of senior people who have supported my endeavours. First I would like to acknowledge the three Deans of the Faculty of Business Studies, Professor Ralph Love, Professor Reg Matthews and Professor Rolf Cremer, who allowed me to conduct this research, even though it was outside the bounds of my contract. Mention should also be made of Professor Graeme Fraser who, as Assistant Vice Chancellor (Academic), supported my work while I was employed in the Learning Support Network. I would also like to acknowledge the support of Nicola North, to whom I reported in the Faculty of Business Studies and Malcolm Bowling who, as Head of the Learning Support Network, took an interest in my project and delighted in challenging my ideas.

In my present position as Head of the Student Learning Centre, I am also fortunate in both the support of my managers and the encouragement of my colleagues. I would like to acknowledge the active support of Chris Collins, Regional Registrar at the Palmerston North campus, and Murna Thomson, Assistant Vice Chancellor (Services), both of whom encouraged me to spend time with this work during the painful process of completion.

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thank the Hort Tech class of 1995. I have never, in my whole teaching career, met a class like this one. They were, in every respect, partners with the teaching team in the pursuit of learning. They were obstreperous, challenging, encouraging and curious, they shared their dreams and passions and frustrations, and they grew beautiful sunflowers. Thank you to Jeanette, Stephanie, the Pauls, Kevin, Andrea and all the team.

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Chapter 1. "This schizophrenic institution": Beginnings

> There's this schizophrenic institution that...exists on writing, and careers are structured on writing and the whole system, everything is based on writing...and yet any work with that kind of writing is seen as very low level, or ghetto, or, what is increasingly legitimately called in the literature, shitwork (J. Holst, 21.5.96).

That New Zealand universities take a schizophrenic attitude to issues relating to academic writing is manifest in many ways: in the ways in which students are taught (or not taught) the writing styles and structures of their discipline(s), in the status of writing support or development staff, in faculty attitudes to themselves as writers, and in the debate amongst writing teachers concerning who are the custodians of good style.

New Zealand universities' ambivalence towards the teaching of writing is particularly surprising in the light of employer and graduate surveys. Overseas employer surveys highlight the need for graduates to have strong written and oral communication skills. In 1993, the Australian Association of Graduate Employers focused on Australian students' lack of communication skills when they reached employment, while an (undated) information bulletin from the University of Melbourne's Course and Careers unit places such skills second on its list of skills employers look for – straight after vocational skills related to degree programmes. The 1992 report by the Higher Education Council stated that employers want high communication skills ahead of any other skills, while Reid (1997) quotes a number of sources (e.g. Illing, 1994) from the Australian business context which emphasise the overall importance businesses place on graduates being able to communicate effectively. This picture is continued in Britain where a 1997 survey of a particular group of employers showed the difficulty of finding graduates in that field with the required level of communication skills (Merrick, 1997).

These attitudes are reflected in New Zealand surveys. For example, a 1996 report from the careers advisory service at Victoria University states that 40% of

employers visiting the university requested graduates with strong verbal and written communication skills. Furthermore, the report states that the number of employers looking for either communication or interpersonal skills was higher than the number of employers looking for vocational skills. A report from within Massey University's Accountancy Department to its Curriculum Review Team in 1992, based on interviews with employers and other stakeholders, stated:

> Students entering the...programme should have skills in the following areas: literacy, literacy, literacy, literacy, literacy, literacy, literacy, literacy, numeracy, oral skills, economics, computer and keyboard skills, and people skills. The definition of literacy ranged from basic reading and writing skills to the ability to organise material into a coherent argument. No matter how literacy was defined, entering students were seen as lacking in this area. ...
>
> Exiting the...program, students must have:
>
> 1. The foundation of the principles on which the specific discipline is based;
> 2. Skills to enable effective communication (writing, speaking, and presentation, and listening), critical thinking, problem solving (the ability to access and utilise information), and a desire to go on learning (Porter, pp.5-6).

A 1995 Otago University survey of lifelong learning attributes looked for by employers (Andrews, 1995) showed that 80-90% of employers rated written communication skills as "considerably or very important", but only 50% of employers felt that written skills were "demonstrated to a considerable or high degree" by university graduates. *The New Zealand graduates 1990: follow-up survey, 1991 and 1996* (Cox and Pollock, 1997), commenting on the Otago study, states that graduates confirmed this need for strong communication skills since almost 25% of them also identified communication as a further skill they would have liked to have had for their job. This survey summed up this issue thus:

> When asked what further skills or training they would like to have had (from their courses) for their subsequent employment, graduates expressed strong interest in being taught time management, negotiation skills, better written and spoken communication skills, and general management. The powerful impression given by the survey responses was that such generic skills are not emphasised strongly enough during degree courses (1997, p.4).

A recent article by Sligo et al. (1999) states:

Some commentators have drawn attention to the perceptual mismatch between academics and students on the one hand, and business people on the other. People in the university tend to believe that discipline-specific abilities are a priority for graduates. Yet business recruiters are much less concerned about such abilities, and instead want candidates who have…communication skills, flexibility and creativity (p.5).

The value that academic staff place on communication skills is ambiguous. As Reid (1997) points out, Illing's 1994 survey of academics showed that there was "general dissatisfaction with the written language skills of most of those they teach" (p.2), yet, unlike employers who saw communication as being the most important skills requirement of graduates, academics rated it only fifth amongst desirable skills. "Why," asks Baldauf (1997, p.2), "do university staff rate content knowledge so much more highly than language, literacy and communication skills, when professional bodies in those same disciplines rate those same skills as their highest priority for graduates?"

Why, indeed. Written and oral communication skills obviously contribute to students' success, both at the university and in their future employment. That universities should not hear these messages, that they should leave the acquisition of these skills effectively to chance (and that, as we shall see in chapter three, those involved in teaching these skills essential for employment success should be so undervalued) is puzzling.

It is easy to leave discussion of these attitudes in the realm of theory and pedagogy; but because the genesis of this study was experience rather than theory, frustration followed by academic curiosity, I begin by underlining the practical manifestation of this "schizophrenia". Three personal stories illustrate my theme:

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I first became aware of the problems surrounding academic writing in 1978 when, as an 18-year-old psychology student, my first university assignment was returned to me. Educated in an English grammar school and later a provincial New Zealand high school, a confident A student, I never doubted my ability to handle language in any setting. When my first university assignment was

returned to me with the comment "too descriptive; use more sources" followed by the unfamiliar letter B- I began, with anxiety, to explore and puzzle over the question 'What does writing at university mean?' In 1978, two terms of serious anxiety and much experimentation passed before I stumbled, inarticulately, over a formula that, to some extent, and with some exceptions, worked. My teachers were unhelpful. Mysterious comments on essays such as "you need more focus" or "did you read the question?" (What question?) or "this is a psychology essay; your approach is too sociological" (so – that was bad??) gave me few directions as to what was actually required. Timid forays into lecturers' offices achieved little but the irritation of the teacher. No one would tell me how to write. I did not know what an A essay would look like; my lecturers did, apparently, but they weren't going to tell me.

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In 1989, appointed to a relatively new position of Writing Centre tutor in the Business Studies Writing Centre at Massey University, I began to ask the same questions, with just as much curiosity and anxiety. I recognised the same anxiety in the students who came to my office, holding out their assignments and wanting to know "What is wrong with my writing?"

My curiosity about this question was perhaps my only qualification as a writing teacher. With a master's degree in literature, specialising in nineteenth-century poetry, I was approached by an acquaintance on the basis that I had the personality required for such a position. I had no experience as a teacher of academic writing and no familiarity with business writing or the more specialised forms of academic business writing found in universities.

I was almost overwhelmed by the needs of my students. I recognised myself in the students who would crumple up in a chair in my office saying "I didn't know I had a writing problem" or "my lecturer says there's something wrong with my writing and told me to come here to find out what it was". Clearly something more than 'personality' was required here. Thus, in 1989, I began again this process of exploration, of discovering what was required, alongside my students.

What was it that academic staff could so confidently recognise and mark but could not (would not?) articulate?

And what was my role? I had no job description, no immediate superior to report to, and the conditions of my employment were highly ambiguous. The services or roles I inherited from the previous tutor clearly placed me as the 'expert' on writing, and I was keen to extend that role to 'teacher', yet I was often treated by staff and students alike as a 'fixer'. Sonja's story illustrates the dilemmas and problems of 'the writing centre tutor'.

Sonja sat in my office and wept, clutching the script of a 3,000 word essay. A very able third year student, she had received her first ever C. Her script was literally covered in comments by the marker: whole paragraphs had been substantially reworked, and at the end was the comment "your writing is appalling – go to the Writing Centre". Sonja was a regular visitor to the Writing Centre, not due to poor writing style, but because she liked 'an extra eye' (as she put it) to look at what she was writing. I considered my job with her to be one of peer editing; she was a capable writer. But it must be said this essay had created problems for her. While the subject she was working on was not new to her, the conceptual level had increased considerably. Accustomed to writing a practical analysis, she had been required to take a more theoretical stance, a theoretical stance, moreover, which contradicted or challenged previous work she had engaged in.

Over several visits to the Writing Centre she had struggled with the ideas, and when she finally wrote a draft her usual confident style had deserted her; her work was full of basic sentence level errors. I had suggested that a solution was to write in a simple style with short, clearly focused sentences. As she worked at writing in this way, her ideas had clarified.

The criticism of her writing, her "appalling writing", was, indeed, that her sentences were too simply written. The marker had adjusted most of her sentence into complex sentences, adding transitions, and reworking the construction completely in most places, sometimes to the extent that the meaning became

obscured: where we had aimed for strong verbs, for example, the marker had inserted nominalisations. And the low mark appeared to be entirely consequent upon the 'writing problem' since the marker had not commented on the content. Over the following week I was visited by several of Sonja's classmates who were experiencing a similar shock. This was not an isolated incident.

When I went to see the paper coordinator, I presented the case that the work entailed a conceptual leap that created writing problems. I presented her with research that illustrated how new conceptual difficulties can create difficulties with writing, and suggested that allowances be made for this. Finally I suggested that stylistic differences needed to be allowed for, or that she provide models of the kind of writing style which she preferred and explicitly directed students to this style. In this way I hoped to move her position from punitive to supportive.

The paper coordinator met these suggestions with considerable hostility. Her argument was that she expected the best, regardless of conceptual leaps, and if I was not teaching 'the best style' (that is, the style she required of them) then she would not direct students to the Writing Centre, or would actively discourage their attendance. It was her view that her qualifications indicated that she had a superior writing style and she expected similar standards from her students.

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In 1992 I experienced a different manifestation of our schizophrenic culture relating to academic writing. Still looking for the magic answer to the question 'what is good writing in an academic context?' I asked to tutor in a paper on academic writing that had recently been established by the English Department. Here I encountered the group of hostile students and frustrated tutors who were the catalysts for my research.

Applied English[1] was designed as a generic writing paper.[2] Taught by a large contingent of tutors, both full time academic staff and casual tutors, Applied English progressed, in the manner of freshman composition, through narrative and personal writing to a special emphasis on the expository essay and argumentation. The paper guided students and staff through structured material that nevertheless allowed for flexibility of approach. The paper operated on a two-hour workshop/tutorial each week for the full academic year.

The small group of bored, occasionally aggressive, students in my workshop/tutorial was immediately disruptive. Arriving late, without the required classwork, unprepared, non-participative, they challenged me as a teacher, as I struggled to find ways which would interest and stimulate them. Discovering that they were all horticulture students for whom the paper was compulsory, I looked for ways in which the paper work might be relevant to their needs and futures: they remained unconvinced.

That the horticulture students were a problem seemed to be the opinion of most of the staff teaching the paper, particularly the casual staff. At the end of the paper, the coordinator of the paper separated the horticulture students' evaluations from the rest of the students for comparative purposes, and found that the horticulture students consistently gave evaluations approximately .5 (out of a possible mark of 5) below the overall student group. Of particular concern to her was the discrepancy between the horticulture students' answers to the categories "appropriateness of course objectives to student needs" and "improved my writing skill". Horticulture students gave a mean of 3.32 (out of a possible high of 5) to the first category (compared with an overall mean of 3.98), and a mean of 4.20 (compared with an overall mean of 4.24) for the second category. In a letter to tutors the paper coordinator commented on this discrepancy:

[1] In 1996 the paper was renamed Written Communication – a title which further underlined its generic focus.
[2] Massey University designates a single unit of study as a 'paper'. However, in casual usage, a paper is often referred to as a 'course'. In this study, I have used the official terminology (i.e., paper), but where interviewees use the more casual terminology (i.e. course), I have retained their words, rather than correcting them.

> I think it's...interesting to compare [their] response here [to overall question of whether their writing skills had been improved] with their response to [the question of whether the course was meeting students' needs]. In effect what they are saying is inconsistent: yes, we improve their writing skills, but no, the course does not meet their objectives. Just what are their objectives?

Horticulture students were also less inclined to feel that their writing confidence had improved after taking the paper, with a mean score of 3.71 (compared with the overall mean of 4.03). Again, the paper coordinator commented:

> ...[they] evidently are forced to face the sad truth that they don't write as well as they'd always thought they did, and thus their confidence drops.

An earlier comment encapsulates her understandable frustration with this group of students:

> Obviously, they hadn't a clue as to why they were forced to take the course.

These questions intrigued me: what were the horticulture students' objectives, and why had they been forced to take this paper which they clearly did not experience as being of huge benefit to them? And why was there this discrepancy, if indeed there was one, between their perceptions of themselves as writers and the English Department tutors' views of these students as writers?

Fortunately, the alienation of at least a few of the horticulture students was not yet complete, and they were prepared to talk to me about the paper and their experiences. Some were simply offended that they were required to take a paper which they saw as remedial rather than developmental; but all were confident that they were being taught a writing style which was not appropriate to their needs. As they saw it, they were indeed being taught to write 'better', but better was not what was needed. These queries began, alas, before I started carrying a tape recorder with me, so I do not have their exact words. But they explained that in their classes 'on the other side of campus' they were never required to write essays so that all the focus on argumentation in the Applied English paper they perceived as being irrelevant. Furthermore, if they used the *style* of writing taught in the English Department, they were pulled up by their other teachers as being too flowery. As one young man put it "they don't want transitions; they

just want the facts...just bang, bang, bang...no fuss". If they had to do a writing paper, they wanted a paper that would teach them how to write reports and memos and 'relevant' documents, in a style that would suit their lecturers, and maybe their accountants and bank managers.

Curiosity increasing, I set off for 'the other side of the campus' (at Massey University's Turitea campus this is a literal description of the campus, with social sciences, humanities and business at one side, the sciences and applied sciences on the other, and service functions – the library, the student association building, cafeteria – in the middle). The teaching staff who worked with the horticulture students agreed with the students that the writing style being taught in the English Department was not what they were looking for. One staff member insisted that he would put his red pen through "any of that poncy, flowery English Department crap".

The convenor of the horticulture degree committee explained the context of the inclusion of Applied English in the degree programme. Graduate and employer surveys over many years had indicated that horticulture graduates from the University lacked communication skills, and these were skills that employers were prioritising. The choice of the Applied English paper as a way of teaching these skills was described thus:

> When we redeveloped the horticulture degree...one of the key features was that the core would include a communication paper. At that time there was debate within the faculty and particularly with the extension lecturer, about developing our own paper. I guess I didn't encourage that, because it was a radical step for our faculty to include a paper in this area and I felt it was important that it had credibility within the university (K. Milne, pers. comm., 5.5.93).

This conclusion, that the teaching of writing could be achieved credibly only through the English Department, even when such an approach was manifestly not meeting the needs of any party, led me to the library and hence to the wealth of literature on teaching writing in the disciplines.

My enquiries and reading occurred as the Faculty of Agricultural and Horticultural Sciences was planning a major shift in their degree programme, and

my interest led to my involvement in the development of a new approach to the teaching of communication in the faculty, the emergence of which is detailed in later chapters.

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These three stories illustrate the confusions that led me to this research. One thing that strikes me is the isolation of the journey. As a student, I never asked my peers how to write an essay; no-one shared papers or marks, due, perhaps to the implicit competition between students, or the insecurities that are a part of adolescence, perhaps because we all assumed that everyone else had learnt how to write essays at school. While I asked my teachers, they were unable to direct me. As a Writing Centre tutor in the late 1980s and early 1990s I worked alone, designing a job for myself, without collegial support in my own institution, unaware of colleagues at a national level. My investigation into the dilemma of the horticulture students was conducted amidst tension and antagonism between the groups involved. And, as I moved into the literature, I found access was restricted because much of it was not available in New Zealand and I had no funding which would allow me to access it from overseas.

As a result of the events described in the three stories above, I began to form a series of questions to direct my reading and thinking. Eventually, I summarised my thoughts into four questions:

- how can we teach writing effectively to students from specific disciplines?
- what is the most effective role for a writing consultant/teacher?
- where is the teaching of writing placed in our universities?
- how can academic staff be helped to identify and thus teach the writing styles and structures of their disciplines?

These questions were still very much in my mind when I was invited to a meeting with a small group of staff in the Faculty of Agricultural and Horticultural Sciences who were charged with the task of deciding how

communication and writing could be taught in the new Bachelor of Applied Science degree programme.

This study is a result of the serendipitous converging of my interest in writing at tertiary level, the formation of a new degree, a Dean who could hear what his stakeholders were saying, and a group of academic staff prepared to teach outside their comfort zones. Following the first meeting in the Faculty of Agricultural and Horticultural Sciences, I joined the planning team for the communication component of the degree and found a place where my questions could be answered and the ideas that I was forming on the basis of my reading on writing across the curriculum could be put into place.

Three writing projects are the focus of this study. All three took place in the Faculty of Agricultural and Horticultural Sciences between 1993 and 1996. While each project operated independently, their aims were connected and there was considerable overlap between the members of the project teams.

My involvement began with project one. This involved the design and teaching of a communication paper for the faculty: 19.155 Communication in Applied Science. The paper was designed collaboratively by a team of academics from the faculty and myself as a writing consultant. Project two evolved out of project one. There was concern that a single communications paper would not be enough to teach and reinforce the writing and communication skills students would need as graduates. Therefore, the staff of the Department of Agricultural and Horticultural Systems Management – some of whom were teaching in project one – developed a writing across the curriculum project to integrate the teaching of writing into their papers. Project two, then, aimed to reinforce and extend the skills taught in project one and to teach the specific writing skills required in the department.

Project three also developed partly out of project one. This project focused on a single horticulture paper which integrated writing into its fundamental pedagogy. One of the significant ways in which it differed from project two was that it did not add the teaching of writing into already existing papers, but rather included

writing in its conception and formulation. Another way in which it differed from projects one and two was that it included a 'writing to learn' philosophy rather than a single 'learning to write' philosophy.[3]

Each project used action research as a method for planning, implementing, and evaluating its programme. A detailed discussion of action research and the advantages of using such a method in this context is provided in chapter five, but the key reasons can be summarised as follows: action research takes place in a real rather than ideal context, it provides a process to implement and monitor change, it allows for effective collaboration and ownership of the project, and it combines the qualities of action and research.

Primarily, then, this study focuses on a critical question:

- how can we effectively teach writing in the disciplines?

This thesis describes one writing programme, consisting of three projects, which answered this question in a particular way. During the development of the projects, we refined this key question into two subsidiary questions:

- can writing in the disciplines be taught effectively through the combined expertise of writing specialists and subject specialists?
- is action research an effective method of empowering academic staff as teachers of writing?

The structure of this study mirrors the action research process. Action research begins with personal experience and a question, or series of questions, or a general idea. The purpose of this chapter has been to establish these features of the projects.

The next part of an action research project is often reconnaissance, a careful scrutiny of the context in which participants find themselves. Action research

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[3] These terms are discussed fully in chapter four.

requires participants to look carefully at the multiple contexts of the research projects, and consider the ways in which the contexts and the projects may impact on one another. The next three chapters of this study focus on the context of the projects.

Chapter two, the first chapter to look at context, describes the most immediate context of the projects. In particular it considers their institutional and historical context, and looks briefly at the teams that undertook each project.

Chapter three considers context from a broader perspective. Specifically, it explores the question *Where is the teaching of writing placed in our universities?* Drawing on the results of a questionnaire, a series of semi-structured telephone interviews with key players, and relevant documents, it outlines the history of teaching writing in New Zealand universities. The chapter describes the placing of writing in each university, the issues relating to location, and the historical factors that informed the nature, status and components of writing in each university. Finally, chapter three looks holistically at the pedagogical and political aspects of writing in New Zealand universities as a broad context for the present projects.

Chapter four broadens the consideration of context still further. It considers the question *How can we effectively teach writing in the disciplines?* It surveys the scholarship on writing in the disciplines. Such a survey necessarily takes us beyond the New Zealand context, since most of the literature on writing in the disciplines, writing to learn programmes, and writing across the curriculum relates to the North American tertiary context. This chapter provides the rationale for using an integrated model of writing in the disciplines in the present study.

The next stage of action research involves planning the process that will be undertaken. This involves planning how data will be collected and anticipating any ethical considerations. These projects used an action research process as a means of integrating writing into an applied science curriculum. Chapter five explores the key questions *Why was action research used to integrate the skills of the writing teachers and the subject specialists? What ethical constraints*

influenced the programme? This chapter focuses on the rationale of using action research to develop a writing programme in the disciplines by providing a description of action research, a history of its development as a form of educational research, and a discussion of its strengths and weaknesses. It also looks at the data collection methods used in the projects and relevant ethical issues.

Chapters six, seven and eight are detailed studies of the three parts of the programme that evolved in the Faculty of Agricultural and Horticultural Sciences at Massey University. Chapter six describes the origins of the Communication in Applied Science paper which provided the foundation of the faculty's writing in the disciplines programme and describes the three action research cycles during which this paper was developed.

Chapter seven details a writing in the disciplines initiative undertaken in one department within the faculty, the Department of Agricultural and Horticultural Systems Management. In this project, action research was introduced to academic staff through two workshops and was then used to develop an explicit writing programme for papers in the department. Objectives and strategies were developed by the whole department and subsequently managed on an individual paper basis.

Chapter eight provides a detailed study of one paper in horticulture that adopted writing to learn strategies as a consequence of staff having experience in the Communication in Applied Science paper. Action research was used explicitly to develop the paper, and the writing to learn approach was one of a series of initiatives used to revolutionise the teaching of horticulture in the Department of Plant Science.

While each of the projects included multiple moments of reflection, as required in the action research process, the overall programme (which includes all three projects) also merits a final moment of reflection. The final chapter of the thesis constitutes this final moment of reflection. Chapter nine draws conclusions from these studies, in the light of the research questions, and considers the factors that

may indicate the successful implementation of a writing across the curriculum programme in a New Zealand university. It also considers the limitations of the study as a whole and directions for future research.

Section One: Contexts

Chapter 2: Historical context

Those who would change curriculum must become ethnographers of their home campuses (Maimon, 1992, p.xi).

As Elaine Maimon states above, every writing programme is, perforce, individual to its own context and must be designed with its particular political, structural, cultural and institutional context in mind. Furthermore, it is a truism of action research that any action research project must examine the context of the research and anticipate the possible interactions and effects of context and process on each other.

We started our research with two key questions: how can we effectively integrate writing or communication into an applied science context, and how can we establish effective collaborative teams and processes to achieve our aims? The next step was an exploration of contexts: what can we discover about the contexts of the projects? What will they tell us about our starting place? How will they impact on the projects and how might our projects impact on the context of the research? This short chapter is the first of three chapters that focus on contexts. It looks at the most immediate context, i.e., the institutional context in which the projects took place, the historical events leading to the inclusion of communication in the curriculum, and the composition of the project teams.

The three writing projects that make up this study took place within the Faculty of Agricultural and Horticultural Sciences at Massey University. Massey University is situated in a provincial city in New Zealand. Developed in 1927 as an agricultural college, it acquired university status in 1963. It is arguably the largest university in the country, in terms of student numbers, with 11,329 internal and 17, 355 extramural students in 1994 when the projects began. At the

time of the study, the university's academic programmes were structured into nine faculties.[4]

The implementation of the writing projects coincided with the development of a new degree in the Faculty of Agricultural and Horticultural Sciences, the Bachelor of Applied Science. Consequently, the projects took place at a time of change and some confusion. It was also a time of rapid and radical curriculum development and this climate of change undoubtedly facilitated the acceptance of the projects.

To understand the culture of the faculty at the point when the projects to be described in this thesis were initiated, we need to consider four issues:

- the development of the Applied Science degree programme
- previous approaches to teaching writing within the faculty
- the decision to include communication within the curriculum of the new degree
- a short history of the two departments in which the writing projects took place.

This chapter provides a context for the research by considering each of these points.

2.1 Bachelor of Applied Science

The new degree emerged out of a time of change and turmoil for the Faculty of Agricultural and Horticultural Sciences. As the oldest faculty in the university, it had an international reputation for its research and enjoyed a position as the centre of the university. But following the rural downturn in the 1980s in New

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[4] Since this study took place Massey University has become multi campus and has been restructured into four colleges. However, because the immediate context of the projects is important, I have maintained the terminology of the time i.e. 1994-6.

Zealand, student numbers dropped while the size of other faculties, most notably Business Studies, increased dramatically. Over a short time, perceptions of the faculty within the university changed and it came to be seen by other parts of the university as overstaffed, resource hungry and subsidised by the larger and growing sectors of the university.

The need for change was recognised, as is evidenced by the number of reviews that took place throughout the 1980s and early 1990s. The Dean of the faculty led the debate on curriculum change in the face of changing perceptions of the primary sector and agriculture education. In 1991 he wrote:

> As far as institutes of higher learning are concerned, the education challenge cannot be handled by a traditional faculty or school of agriculture. Indeed, the required educational programmes will demand a much stronger commitment to co-operation across traditional discipline boundaries than is currently the case in most institutions. Vice-Chancellors/Directors should demand that faculties with production, product development, processing and business briefs develop educational programmes with the common objective of leading and servicing the educational requirements of a 'new agriculture' (Anderson, 1991, p.6).

At the beginning of the rural downturn, in the 1980s, reviews focused on simple rationalisation of individual undergraduate degree programmes. In the 1980s four undergraduate degree programmes were being offered: the B.Agr., B.Ag.Sci., B.Hort., with or without an endorsement, and the B.Ag.Econ., as well as a number of diploma courses at the sub degree level.

Towards the end of the 1980s, by contrast, the focus of review changed to the development of a single degree with a focus not so much on technology but on whole of life learning (Anderson, 1995):

> In designing programmes, educators have had a bad habit of over-emphasising course content at the expense of the process of education. ...Employers on the other hand are increasingly emphasising the need for whole of life learning abilities – communication, problem solving, flexibility, team learning, entrepreneurship, interpersonal skills, loyalty, integrity and lateral thinking (p.37).

In 1991, during a retreat of senior management, the design of the new curriculum for the single degree was established. Communication skills were included as a

primary objective and as a core component. However, the mechanism for incorporating this element into the curriculum had yet to be decided.

2.2 Prior approaches to communication

The faculty had long been aware of the need for students to acquire good communication skills. In 1987, in a two day seminar 'Business 2000' all employers present stressed the need for graduates to be able to communicate well. Participants in the 1988 Employer survey commented on the desirability of graduates being able to "communicate to all people regardless of their culture and level of education" (Gregg et al., 1991). Galvanised by repeated results of employer surveys, the 1988 B.Agr. Review noted that "graduates, employers and teachers all commented on the need for improved graduate performance in oral and written communication" (p.9).

Despite the increased awareness of the importance of communication skills, the Agriculture strand of the faculty continued to regard the teaching of these skills as the responsibility of individual paper coordinators. In 1988, the report on the review of the B.Agr. degree states:

> The Review committee, while agreeing that remedial help with basic English construction/composition problems should be available...rejects the notion that a core paper should be introduced to take care of the literacy problem. ...Every paper throughout the B.Agr. programme should accept and share responsibility for providing ample opportunities for practice and demand high levels of oral and written performance, pointing out student shortcomings in this respect, assisting where possible and referring difficult cases for remedial tutoring (Anderson et al., 1989, p.9).

In 1991 this position was reinforced:

> Literacy, numeracy and computer application skills should not themselves form part of the compulsory material but should be considered an integral part of all papers. High standards should be set and enforced in these areas and students with deficiencies should be made aware of them and guided towards appropriate remedial tutoring (Younger, 1991, p.2).

Philosophically and pedagogically, this position appears to have much to commend it. But since no attempts were made to establish what these 'high standards' should comprise, or what 'students with deficiencies' actually meant, such an approach had little impact on the teaching of communication skills. Furthermore, this approach focused on referring communication difficulties outside the faculty with little recognition of the role of academic staff as teachers of writing/communication.

In 1989, the Horticulture strand of the faculty diverged in its approach to teaching writing from the Agriculture strand. In this year Horticulture introduced new degrees with a generic writing paper, 39.107 Applied English, included as a compulsory paper from the outset. They chose this option out of a belief that a paper on writing skills taught by the English Department would have more credibility than one taught within the faculty (see p.9). They were also sceptical of the efficacy of an undefined integrated approach. Specifically their interest was in encouraging students to acquire generic writing skills at the 100-level with faculty-specific writing skills taught at higher levels, particularly in Hort Enterprises I and II. Some effort was made by the then paper coordinator of 39.107 to integrate the specific needs of horticulture students into the paper (although later paper coordinators abandoned this approach in favour of a more humanities-based stance).

The recognition on the part of senior staff in the horticulture programmes that communication issues needed to be directly addressed rather than being left in the hands of academic staff was a step forward in terms of increasing the visibility and hence the importance of writing skills. On the other hand, teaching writing in this context was still placed outside the discipline, and so writing was not yet integrated into the curriculum.

In 1992 faculty staff also showed their awareness of the need for communication skills. The results of the staff survey published in the Gregg report (Gregg et al., 1991) showed strong support for the inclusion of spoken and written communication as a required core component of the single new degree.

2.3 The Department of Agricultural and Horticultural Systems Management

The first of the 'stakeholder' departments for the projects described in this thesis was the Department of Agricultural and Horticultural Systems Management. The department was one of the smallest and newest in the faculty. The history of the department gives an indication of why communication teaching for the faculty was initially located there.

The Department of Agricultural and Horticultural Systems Management was established in 1986. It was one of six departments in the faculty in 1994, with a complement by the end of the year of 13 academic staff (including a lecturer in extension), three research officers, one post-doctoral fellow, and two administrative staff. The director of farms administration and farm supervisor, whose prime responsibility was administering the university's commercial farms, were associate members of the department.

The forging of the department from the Department of Agricultural Economics and Farm Management, by a then new Dean, was a controversial move. Ostensibly the division took place to take the practical farm management staff out of the shadow of theoretical agricultural economics. Other issues, however, also played a part. The first was a concern on the part of the Dean that staff in farm management were being disadvantaged by their association with agricultural economics. Few staff in farm management were PhD trained, few had progressed through the accustomed and traditional academic pathways. Furthermore, their research profile was limited. This was partly a function of their non-academic or limited academic background. Another key factor was the nature of the discipline itself which, being largely interdisciplinary, required staff to be competent in a wide range of fields. Research in this interdisciplinary field was more time consuming than research in some of the purer science disciplines in the faculty, such as animal science or soil science. In their association with Agricultural Economics, then, farm management staff appeared to be less qualified and to produce less published research. Their promotion opportunities

were thus limited. In establishing these staff in a separate department, the Dean intended that new criteria might be used to assess them and that the particular research of the discipline might be encouraged and extended.

Another reason for separating the departments was that the Dean saw a very specific role and emphasis for the new department. When one considers the other departments in the faculty – Soil Science, Animal Science, Plant Science, Agricultural Economics and Business, Agricultural Engineering – it is clear that the new department, with its focus on farm management, was very different in focus. Farm management is an integrative discipline. Interfacing with all the other departments within the faculty, it also integrates with social science disciplines (such as sociology, anthropology, and psychology) and business disciplines (such as marketing and management). In many ways farm management provides a link, placing other disciplines within a connected rural and business context. Because of the attributes of this discipline, it obviously needed to be spot lit rather than overshadowed.

The name of the department was an internally controversial issue. For many staff within the new department, farm management was the most appropriate name, historically and descriptively. However, the inclusion of the word 'systems' emphasised the integrative, holistic nature of the discipline, taking the arena of the discipline beyond the farm gate and thereby widening its focus. Furthermore, the idea of 'farm' management was seen as too limited by those in the department whose focus was squarely on horticultural contexts. The resulting name was unquestionably unwieldy, yet senior management of the faculty felt that it accurately pointed the department into a broadening context and allowed it to extend and entrench its interdisciplinary focus and to take on a unique and crucial role within the faculty.

Six years on, through a period of management changes within the department and at the onset of a new direction in teaching for the faculty, with a new and young head of department in place, the department, in the Dean's words, was "well placed". Yet the struggle to determine the parameters and nature of the discipline and the direction of the department and its place in the faculty meant

that it had difficulty maintaining internal unity. Generally, this may have been a consequence of the nature of the discipline. To quote the Dean of the faculty once again, "The leadership of interdisciplinary activity and the need to integrate – it's not an easy science" (pers. comm., 1.12.94). Or, as the head of the department said: "one of the things in terms of formulating an academic plan and a strategic direction for [the] department is: what should we emphasise? What is going to be our high ground?" (pers.comm., 1.12.94).

One of the 'threads' within the department was extension science. The definition of extension, as a sub-discipline, is also a highly debated issue. At its simplest level, extension is about information transfer, about taking new technologies from the lab or the engineers to the farmers or growers. Extension thus has educative, marketing and communication functions. Until 1994 only one person in the faculty had taken on the extension role. In May 1993 this staff member retired but his position was retained and his replacement arrived in mid-1994. In the interim two senior members of the department took over the teaching of extension.

2.4 The introduction of communication

The new degree programme for the faculty, unlike earlier degree programmes, which either had a pure science base (such as the Bachelor of Agricultural Science), or an agricultural technology base (such as the Bachelor of Agriculture), focused on core skills such as problem solving, communication (including numeracy), and independent learning skills such as knowledge acquisition. One of the senior members in the Department of Agricultural and Horticultural Systems Management, who had taken on the teaching of extension and who was on the degree development team, argued that communication become not simply a nominal part of the degree but be taught directly, either through an integrated strategy or through a paper taught within or for the faculty (possibly through the English Department, for example). Because this staff member championed the communications component, he was given

responsibility for either designing a relevant paper on communication or finding someone to do so from other departments within the university.

Because communication was seen as an aspect of extension science, and because a teacher of extension had been the main proponent of communication as a core skill, it was natural that the communications initiative should be developed for the faculty as a whole from the Department of Agricultural and Horticultural Systems Management.

2.5 Department of Plant Science

The second stakeholder department was the Department of Plant Science, the largest department in the faculty and one of the largest in the university with a staff, in 1994, of 32 academics plus technical and support staff. The department was an amalgamation of three departments (Horticulture, Plant Health and Agronomy) and two centres (Seed Technology and the Plant Growth Unit) and hence had a heavy senior staff component.

Like the Department of Agricultural and Horticultural Systems Management, the Department of Plant Science, because of its size and the nature of its evolution, had problems with direction, cohesion and curriculum. It also had problems relating to student numbers and credibility: its staff-student ratio was very low and the department was perceived by other departments within the faculty as being heavily subsidised. Because of the low student numbers, staff were under some pressure to contribute to core faculty papers (such as communication) which would bring EFTS[5] into the department. There was, therefore, no pedagogical reason for Plant Science staff to be teaching communication: only practical and political reasons.

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[5] EFTS = Equivalent Full Time Student formula used to calculate government funding for tertiary institutions in New Zealand. "An EFTS is a unit of measurement of student enrolments. It defines and calculates enrolments in such a way that a typical full-time year's work for a student generates 1.0 EFTS" (Notes for guidance: New Qualifications and papers, and Calendar Changes, Massey University, 1999, p.42). Tertiary institutions apply for government funding based on the projected number of EFTS which the institution expects to generate in the coming year.

The shift of the communications paper (see chapter six) in 1995 from Agricultural and Horticultural Systems Management to Plant Science was, likewise, pragmatic. The only person in the Department of Agricultural and Horticultural Systems Management available to take over the paper when the first paper coordinator retired was a new staff member who was not a native English speaker, and another member of the communications team from the Department of Plant Science was the only person sufficiently experienced to take over the position of paper coordinator. Politically this was a controversial move and involved a debate not only about funding, resources and expertise but also about the content of the paper. This matter will be discussed in a later chapter.

2.6 The positioning of the projects

The initiation and development of each project and each project team are fully discussed in chapters five, six and seven. Only a short description is included here.

Project one, as stated above, was originally domiciled in the Department of Agricultural and Horticultural Systems Management and moved to the Department of Plant Science at the end of its first year (at the end of the second cycle in this project). The team consisted of myself, as a writing consultant, and a number of academic staff mainly from the two departments.[6] This team appeared to be, at least initially, the least cohesive group: few members of the group had established professional relationships – indeed, some relationships were uncomfortable.

Project two took place in the Department of Agricultural and Horticultural Systems Management and comprised those members of the department who wished to be involved, along with a writing consultant. The team appeared,

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[6] Most of these staff were volunteers, although some staff in the later cycles were 'encouraged' by their HODs to join the team.

initially, to be cohesive, with many established professional relationships. The project was initiated by the writing consultant.

Project three was domiciled in the Department of Plant Science. This group was the smallest and the most cohesive, comprising only five members including the writing consultant. All members of the group had established professional and personal relationships with one another. The project was initiated by one of the horticulture teachers in the group.

2.7 The inclusion of a writing consultant

The 'outsider' in each of these projects was myself, as the writing consultant. In the roles of PhD student in the English Department and writing consultant for the Faculty of Business Studies, I inevitably brought with me the attitudes of someone trained in a particular discipline.

My qualifications were an undergraduate degree in English and History with a partial major in sociology and a postgraduate degree in English literature (with a thesis in the area of Victorian poetry and, in particular, Browning's dramatic monologues), both from Massey University. I had tutored in the literature programme of the English Department. With these qualifications I was invited to tutor in a business communications paper in the Business Studies Faculty, and this led to an invitation to take on the role of tutor in the Business Studies Writing Centre in 1989.

The position of Writing Centre tutor had required me to undertake my own re-education programme. As stated in the introduction, I was not trained to teach academic writing or business writing and found myself ill equipped to teach my students. I read widely in both fields but found the greatest help came from those academic staff in the Business Studies Faculty who were able to articulate their requirements.

This was important for my development as a writing consultant. As a student in humanities I had assumed certain attitudes[7]: applied and quantitative subjects such as business and agriculture were not genuine university subjects; a university was not a university without a humanities faculty and students from humanities could write better, think better, and analyse better than any other students. In other words, the other (lesser) parts of the university had much to learn from the arts.

Working in the Business Studies Faculty exploded many of those beliefs. I discovered that I had much to learn from the staff in business; that writing in the arts did not necessarily prepare one to write in any context; that writing is dependent on audience and therefore what is 'good' writing is dependent on context; that the passive voice, for example, was an ideal tool to use if you wanted to obscure responsibility for a particular action. In other words, I learnt that students in different disciplines need to write differently, think differently and analyse differently – and that the approach I had learnt was not necessarily superior.

It was this awareness of the validity of difference, I believe, that sensitized me to possible difficulties for the horticulture students in being taught by teachers from the English Department. I did not believe they were just troublemakers but, rather, that there must be some problem of which we, the teachers, were unaware.

This does not mean that I took no prejudices with me over to the applied science field. If, as a student, I had believed that business was not a real university subject, then agriculture and horticulture were even less valid. But, professionally, my horticulture students interested me. I was even more interested as I spoke to the staff in horticulture and heard their views about writing and teaching writing. The staff I initially encountered were prodigious

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[7] These attitudes came from the student culture, I believe; I recall no modelling of this attitude from staff.

writers, and often wrote research in groups, which was, again, a new idea to me, since writing in the humanities tends to be an individual effort.

If I brought attitudes and prejudices from my background, it is inevitable that the same can be said of the team members from applied science. While we never discussed this topic directly, it was often a subtext in our discussions. It was generally expressed as my being 'from the other side of the campus' (or sometimes 'the wrong side of the campus'). This term was generally used whenever I demonstrated my lack of understanding of any aspect of the applied science disciplines (especially anything statistical or quantitative). It was used invariably in a humorous rather than critical way: it was a way of observing our differences. On the campus on which these projects took place[8], being 'from the other side of the campus' is, as pointed out in the introduction, a literal as well as metaphorical description. So separated are the sciences from the 'arts' that I had never set foot on the science side of the campus, either as a student or as a staff member, prior to my involvement with these projects.

Staff attitudes concerning the relationship between the arts (and English in particular) and the sciences, as demonstrated by the teams, were, as I experienced them, ambivalent. On the one hand, the team members attributed a certain credibility to the arts in terms of ability to teach writing. On the other hand, the arts were often discussed as being 'impractical', as belonging to an unreal and esoteric world. The success of other interactions before my involvement had been mixed. Team members mentioned successful cross-disciplinary experiences with people from the Education Faculty, for example, but their experiences with staff from the English Department had been less successful or at least less comfortable. It was with this uncertain baggage, and no knowledge of scientific writing, that I joined the teams.

This, then, was the immediate context of the research. Clearly, the history of the development of the degree shows that there was strong support from senior management for the inclusion of communication and writing in the new

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[8] Recently named the Turitea campus

curriculum, and that management had listened to employers and understood the need for graduates to have strong communication skills. However, senior staff were somewhat more tentative about how to include communication in the curriculum, and this was a matter of some risk since, had the projects failed in some way, the new degree could have been adversely affected. So, while they did give the teams a mandate to take a writing in the disciplines approach, their continued support was, naturally, dependent upon results. The individuals who came together to develop each project showed a strong sense of the responsibilities placed on them and exhibited differing levels of confidence; although all were clearly teaching outside their comfort zone, some members of the team found this more difficult than others.

Two other contexts were significant to the development of the projects. The next chapter explores the broader context of the teaching of writing in New Zealand universities.

Chapter 3: Writing in New Zealand Universities

I have nevertheless seriously asked if we could guarantee that all our degree holders could write and speak grammatically and spell correctly. Nobody seems very keen on offering this assurance – which is perhaps a bit disturbing (N. Waters, Report to Massey University Council, 7.10.94).

At the beginning of my research programme, at the end of 1993, I wrote:

A key question when considering the teaching of writing within academic communities is who has authority over writing? Or, to put the question another way, who determines whether a piece of writing is 'good writing' or not?

The question is critical for a number of institutional and pedagogical reasons. First, the institution's answer to this question determines where the teaching of writing is placed within an institution. And the placement of writing affects the status and philosophy of writing instruction. Secondly, the answer to the question affects where responsibility for the teaching of writing lies, and the issue of responsibility affects pedagogical practices and the 'ownership' of writing as an aspect of the curriculum (14.11.93).

Three years of interviewing and researching later, such logic appears politically naive. Academic communities, it seems, rarely make such careful, collective decisions about expertise and responsibilities about the teaching of writing. The question of where writing is taught may be determined as much by personality, a chance appointment, a discussion in a staff room, or a desire to attract enrolment. Only after an initiative has been set up may a discussion about the placing of writing or authority over 'good writing' emerge. The setting up of a Writing Centre may goad an English department into producing a writing paper; a generic paper introduced by an English department may lead subject specialists in a technical field to question whether such a paper is suitable for their students and whether members of an English department have the skills to teach their students technical writing. Discussion may seldom emerge between different providers of writing instruction within an institution, but a certain jockeying for position and defining of territory may substitute for debate.

And, indeed, while dissatisfaction with students' writing skills is not new, political or verbal debate about whether the universities should be teaching writing is, in New Zealand, a new phenomenon. Until recently, the teaching of writing was an unacknowledged aspect of the curriculum of New Zealand tertiary institutions. No-one asked the question *"where should the teaching of writing be placed in New Zealand universities?"* because almost no-one was asking the question *"should writing be taught in New Zealand universities?"* But, with relaxed entry conditions, and economic and social changes altering the composition of the student population, the issue of student writing is becoming acknowledged.

While chapter two looked at the most immediate context surrounding the projects, this chapter looks at a much broader context – the history of the teaching of writing in New Zealand universities. As part of the planning and reconnaissance stage of the projects, we were curious to know how writing was being taught in other universities in the country and whether there were lessons to be learnt and resources to be gathered by comparing notes on practice. We therefore made informal contact, by telephone or letter, with people we thought could help us and later expanded these inquiries with a formal survey. The purpose of this chapter, then, is to provide a description of writing programmes available in New Zealand universities, *at the time that our writing projects at Massey University were being undertaken,* to provide a context for the research described in this thesis. A relatively full account and discussion is given here, with the object of providing a rich picture of relevant aspects of New Zealand tertiary education. Since there has been no professional association or journal relating to tertiary writing in New Zealand, little has been written on the topic. This section rests, therefore, on primary data.

The data for this chapter were collected in two ways: through a survey of universities and through semi-structured interviews with people working in the field. Documents relating to the development of writing programmes were also collected to give depth to the picture of writing instruction in New Zealand universities in 1995-6. The data collection took place over a year, with the survey

being collected at the end of 1995 and the interviews being conducted over the following year.

This material is presented in four sections.

- The first section presents data from the questionnaire to give an overall picture of writing instruction in New Zealand universities.
- The second section draws a 'picture' of the development of writing instruction in each New Zealand university, based on interviews and associated documents; this section includes a more in-depth view of the teaching of writing at Massey University.
- The third section provides a summary of the major themes that arise from the descriptive sections of this chapter.
- Finally, the fourth section describes the emergence of a professional organisation for tertiary writing teachers.

3.1 Overview

Initial data were produced through a questionnaire that was sent to one person engaged in teaching writing at each New Zealand university. My first intention had been to use a questionnaire based on the model provided by Susan McLeod (pers. comm., 1995). However, this proved not to be applicable to a New Zealand context – largely because it used terminology which would not be familiar to New Zealand tertiary teachers (such as upper division courses, writing intensive courses and so on). In the end, I decided that the language in McLeod's survey was so opaque in this context that it could not even be adapted. However, I did retain the five basic structures and so the questionnaire was divided into five parts, based on the most common forms of writing instruction in North American tertiary institutions. Part 1 was for all respondents and provided basic data about the institution and a broad picture of what writing programmes were available and/or compulsory for all students. Part 2 focused on generic writing papers. Part 3 was for respondents whose institutions offered subject specific writing papers. Part 4 identified the number of institutions offering centralised Writing Centre

support or writing support within a centralised learning skills unit. Finally, Part 5 focused on writing across the curriculum programmes (a copy of the questionnaire and a list of respondents are provided in Appendices 1 and 2).

Respondents were asked to fill in all sections applicable to their institutions.

Questionnaires were sent out in November 1995. The response rate was 100%.

The first part of the questionnaire asked for background information that would allow the results of the research to be placed in context.

Table 3.1 Occurrence of North American–style writing programmes[1] in New Zealand universities.

University	Generic writing paper	Subject specific paper	Writing Centre	Learning Skills Unit	WAC programme
Auckland	✓			✓	
Waikato	✓	✓		✓	
Massey	✓[2]	✓[2]			
Victoria	✓			✓	
Canterbury				✓	
Lincoln				✓	
Otago	✓				

[1] McLeod, pers. comm., 1995
[2] Massey University offers two papers

None of the universities required *all* students to complete a writing programme. Clearly, no tradition equivalent to freshman composition existed in New Zealand universities (see chapter four for definitions and discussion), and the relative

newness of the non-compulsory generic writing papers showed that even these papers were a recent initiative on New Zealand campuses.

Five New Zealand universities offered at least one 'generic' writing paper for credit in 1995. Most commonly, these papers were taught through the English Department (Auckland, Massey, Otago), the exceptions being Waikato, where the paper was taught through the School of Education (although it originated in the English Department) and Victoria, where the paper was taught through the English Language Institute (ELI). Generally, these papers were recent curriculum developments; the longest established had been running for 16 years, but most had been established for seven years or less. The applied sciences were most likely to make such a paper compulsory for majoring students. At Otago, Waikato and Victoria, a writing paper was compulsory for Health Sciences, while at Massey, veterinary nurses, information systems and, until 1994, horticulture students were required to pass a generic writing paper.

At only two New Zealand universities were subject-specific writing papers being taught, according to the survey. The Commerce and Business Studies Faculties at, respectively, Waikato and Massey each had a management or business communication paper that was compulsory for students majoring in these subjects. Massey University's Faculty of Agricultural and Horticultural Sciences also offered a Communication in Applied Sciences paper which was compulsory for all students in the faculty (initiated in 1994, see chapter six). These subject specific writing papers were taught primarily by academic staff, with some contract positions in the business communications paper at Massey.

All New Zealand universities except Otago offered writing assistance of some form to some groups of students. Five institutions (Auckland, Waikato, Victoria, Canterbury and Lincoln) used centralised Student Learning units to provide writing support to all students, whereas at Massey writing support was not a central function but instead was provided to Business Studies students through the Business Studies Writing Centre.

Services available through these units are as follows:

Table 3.2 Writing support services offered by learning support/student learning units in New Zealand universities.

University	One–on–one clinic	Short work shops	Distance education service	Written resources	Lectures in credit papers	SLD diagnosis
Auckland	✓	✓		✓	✓	✓
Waikato	✓	✓		✓	✓	✓
Massey[1]	✓	✓	✓	✓	✓	
Victoria	✓	✓		✓	✓	✓
Canterbury	✓				✓	
Lincoln	✓	✓				
Otago						

[1] Only available in the Faculty of Business Studies

At all universities, except Massey and Otago, one-on-one writing assistance, short courses on writing and lectures within content courses on writing-related issues were available to all students.

Most of the units offering writing support services were recent initiatives. The earliest unit (Auckland) was established in 1985. All units were funded by central administration, although some units (e.g. Auckland and Lincoln) had a limited cost recovery factor. All units were staffed by a mixture of full time and part time staff, all of whom had higher degrees. Canterbury had the smallest unit with only one full time staff member and one part time tutor employed on a limited contract. None of the learning support units in New Zealand used peer tutors as part of their writing support programme (although Lincoln and Auckland used peer tutors as a part of other services).

No university-wide writing across the curriculum programme was identified by the survey. Similarly, no university-wide Writing Centre, operating according to

the model of Writing Centres in many universities in the United States, was identified through the survey.

The following sections of this chapter provide more detail on writing instruction at each New Zealand university during the 1995-6 period. ESOL programmes and subject specific communication papers (e.g. Business Communication papers) are not included in the discussion, since they are beyond the scope of this study and did not seem pertinent to the projects to be undertaken at Massey. A list of interviewees is provided in Appendix 3. It should be noted that interview sheets differed for each interviewee (depending on context and information already provided) and that the interviewer did not stick rigidly to the questions but used them as a catalyst for more free ranging discussion.

3.2 Auckland University

Auckland University offered writing instruction to its students through two modes. First, its Student Learning Centre, the largest support unit in the country, offered a range of support services and programmes. Second, a credit course on writing for academic purposes was offered to students in all disciplines at the University's Tamaki campus.

3.2.1 Student Learning Centre

The Student Learning Centre emerged out of the Counselling service in the mid-1980s. The initiative to provide some students with learning assistance came from the then assistant director of counselling, David Simpson, who used volunteer staff taken from a postgraduate psychology class to provide learning support for particular students in need. These three volunteer students became part time paid tutors and formed the nucleus of the new Student Learning Centre when it separated from Counselling in the late 1980s, funded by a combination of student registration fees, equity funds and central University funding.

By 1996 the centre had grown considerably to become the largest learning centre in a New Zealand university. Emmanuel Manalo, one of the original volunteers

to staff the emerging centre, was then its Director. Despite the loss of equity funding, the Centre was securely funded and an established part of the campus.

Services related to writing skills offered by the Centre were as follows:

- one-on-one assistance on writing and study skills
- drop-in service
- skills development workshops
- targeted courses for specified student groups (e.g. the Puawaitanga course for students who have failed more than half their papers the previous semester and courses for students with special admission status)
- Te Puni Wananga
- Fale Pasifika
- faculty focused orientation programmes
- workshops within credit papers
- preparation of resources

The writing support aspect of the Centre took upwards of 50% of the Centre's resources, according to the Director, both in terms of courses offered and in the focus of one-on-one assistance.

> It's a very large proportion of the work that we do. ...Writing is the big thing, and even...with other students that we see, like postgraduate students, or the special group that we see about exams, writing is a very large component of it (E. Manalo, 23.10.96).

All staff except one (a maths specialist) were involved in the writing aspect of the programme. Since the arrival of the present director, staff, on the whole, operated as generalists, working on writing and learning skills with students from across the entire institution. Almost all had a postgraduate qualification in Psychology, Education or English and were employed as tutors or senior tutors. Staff were under no obligation, on a tutor's contract, to conduct research programmes; nevertheless, several were engaged in research in the centre, and there was an opportunity for tutors to move onto the lecturer scale if they could prove that they had conducted sufficient research.

The Centre straddled both remedial and developmental roles, but with an emphasis on developmental programmes. Of particular concern to the Centre at this time was the increasing number of ESOL students using the services. Unlike the Canterbury Writing and Study programme, the Centre did not turn away these students, but tried to distinguish between remedial language support, which is more appropriately provided in the English Language Centre, and tertiary-level writing support, which the Student Learning Centre would provide. The Centre did not provide a proof reading service, and emphasised this in the way it approached one-on-one sessions with ESOL students.

The Centre had professional links with counselling, liaison services, student services and academic departments. Centre staff lectured within credit papers at the invitation of subject teachers, and the Director saw this link with departments as being part of the future direction of the Centre. Other developments he envisaged included creating a higher research profile and providing more transition courses, possibly at a credit-carrying level.

3.2.2 English Writing for Academic purposes

The other initiative at Auckland University relating to writing was the credit paper, Writing for Academic Purposes, taught at the Tamaki campus. The paper was taught under the auspices of the English Department and emerged not out of a concern or dissatisfaction with student writing skills, but out of a need on the part of the department to offer a paper which would increase enrolments at the new campus, be attractive to a wide range of students, and distinguish the offerings of this particular campus from those of the main campus.

Taught by two full time academic staff, the paper was lecture based and focused on structure and process rather than sentence level writing skills. The paper coordinator stressed the academic nature of the content: that it was not remedial but a developmental programme for fluent English speakers. The paper began with 12 lectures on basic academic writing: "paragraphing, the writing process, generating ideas, thesis statements, outlines, organising text in terms of

introductions, ...proof reading, revising, basic research skills and how to use the library effectively, ...plagiarism, and how to avoid it, how to use citations ...and the variety of different referencing styles" (D. Starks, 21.10.96). Lectures were also given on abstract writing, using tables and graphs, and examination writing. The second part of the paper looked at different aspects of academic writing and specialist writing such as reports, summaries and literature reviews, narratives and critiques. Tutorials followed the structure of the lectures, giving students practice at writing different forms.

The class was small in comparison to other generic writing papers taught at other universities in the country. In 1996 it comprised 80 students, allowing the lecturer to conduct research with the group, constantly eliciting feedback and assessment which enabled her to adjust the content and pedagogy. The paper coordinator also worked closely with academic staff to clarify the writing tasks students were likely to confront in all disciplines. Student evaluations were generally positive with 100% of students in one year agreeing that they were able to write faster and more effectively as a result of taking the paper (D. Starks, 21.10.96).

The paper coordinator identified the key strengths of the paper as follows:

> I'm working on it being academic, and I'm trying to give it a different focus, so that it's not just something that would be useful in how to improve your writing. ...I think the small numbers are useful in terms of getting the curriculum right and having consistency in staff, so that I can in fact test out the curriculum. I've been doing a lot of surveys and questionnaires with the students...on a very consistent basis. I'm using...the course sheets, on what they think about the assignments...so that it provides me with as much information as they possibly can, in terms of quality (D. Starks, 21.10.96).

3.2.3 Other initiatives

In September 1995 a Sub-Committee of Deans Committee at Auckland University submitted a report to Deans on English Language and Entrance. The report focused largely on the needs of ESOL students, but also the skills and needs of students with English as a First Language as well. The committee also focused on the changing educational climate and its effect on student literacy,

registering concern about the decline in the proportion of Bursary examinees sitting English or related subjects, e.g. history or geography or languages (English Language and Entrance, September 1995, p.10). The report questioned whether the New Zealand Qualifications Authority's (NZQA) requirements for University Entrance could ensure that students entering the university would have sufficiently sophisticated writing skills to succeed in tertiary studies.

The recommendations of the committee were conservative, reflecting a concern about perceived falling standards. Recommendations relating to native speakers were that all students planning to study at Auckland University in any faculty be strongly advised to continue English to the seventh form or its equivalent; that the University support a list of academic subjects as a foundation of entrance to university; that the University reject the NZQA proposal to satisfy English language competence requirements[9] for entrance to university; that the University provide appropriate resources to mount both credit and non credit papers for students who need this support to realise their academic potential; that the Department of English extend its writing related papers to make them more fully available to meet the needs of students in all faculties; and that all departments be encouraged to use expository English as a form of assessment (English Language and Entrance, Sept 1995, pp.3-6).

The report has been extensively criticised. Amongst the critics, Professor Carr of Waikato University pointed out that it ignored recent developments in New Zealand schools. In particular he pointed to the New Zealand Curriculum Framework, which takes a writing across the curriculum approach to language, embedding language and communication into subject areas (M. Carr, pers. comm. 19.12.95). The report might also be criticised for its lack of theoretical

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[9] The report states: " However, the sub-committee rejects entirely what it currently understands to be an NZQA proposal to satisfy English language competence requirements by allowing 20 credits in Communication Skills at Level 2 of the Framework. At present, it seems possible to accumulate 20 Communication Skills credits (such as 'Be assertive in a range of specified situations', [6 credits] or 'Present ideas and information orally to a specified audience in the workplace' [8 points] without doing any units at all in reading and writing. None of the Communication Skills units so far seen by the sub-committee relate, other than very marginally, to the kinds of English language competence needed for success in university studies" (p.12).

understanding of discipline-specific discourse and the connection between language and learning.

3.3 Waikato University

In 1995-6, Waikato, like Auckland, offered two solutions to students wishing to improve their writing skills: The Writing for University Purposes paper, taught from the School of Education, and the specialist support of the Teaching and Learning Development Unit (TLDU).

3.3.1 Writing for University Purposes

The writing paper, Writing for University purposes, emerged out of the TLDU and the one-on-one work offered there. It was the idea of Rosemary de Luca, who has remained paper coordinator since its inception in the late 1980s. She described the paper as a very personal one:

> It evolved because...I had spent several years working as a study skills advisor and I observed the very great needs of the students and it seemed to me a very sensible thing to try to put together a course and to convince the University that such a course would be useful. ...It was a matter of convincing the University that it was of sufficient academic relevance, so it could actually become a full credit course. ...It then became a part of the English Department...and I went with it (R. de Luca, 19.11.96).

Although initially the paper was domiciled in the English Department, debates relating to the question 'What is English?' led to that department redefining or reaffirming its focus on literature. The paper then moved from English to the Language Institute, and from there to the Department of Arts and Language Education in the School of Education where it resided during the period under investigation.

In 1996 the paper had more than 500 enrolments including students from all subject areas on the campus. It was run twice during the year, once in each semester, and enrolments were traditionally highest in the autumn semester. Although not compulsory for any groups of students, it met the English

requirements for medical intermediate students. The paper description included in its 'target group' ESOL students who were proficient in English (Rosemary defined proficient in this context as meaning students with an IELTS of at least 6).

tr. 6)

Teaching was carried out by one tenured academic staff member and a team of tutors, most of whom had a background in humanities, generally English literature or language. Apart from one initial lecture, three-hour workshops were the primary medium of instruction. Workshops ranged in size from 15 to 30 students. Assessment took the form of three major writing assignments (a book review, a report and an essay) and a final examination. Students spent approximately 30% of workshop time writing, and 10% of the final grade was allocated to workshop participation.

The paper description was as follows:

> This is a practical course. It introduces writing from personal experience as a basis for analysis, then progresses to critical thinking; analysis for review; collection, interpretation and synthesis of information; reporting objectively; argumentation and persuasion; expository writing. The course emphasises conventions of writing which are appropriate in a formal context such as the University or the workplace. Writing is taught as a process so that students are encouraged to produce several drafts. Emphasis is given to flexibility of style to suit the writer's purpose, the reader and the situation.

The paper focused on the writing process from generating ideas to revision. Sentence level instruction was included in the context of the students' own work and process.

In contrast to the coordinators of other writing papers (Donna Starks at Auckland, for example, or Robert Neale at Massey), Rosemary de Luca focused her material to produce a service paper with a practical function. In a discussion about the positioning of the paper, she agreed that it was often seen as 'marginal' to the primary business of her school. Yet the paper was popular, clearly fulfilling its function, with positive evaluations and growing student numbers.

3.3.2 The TLDU

Learning development (as it is called at Waikato) began in a very informal way.
As Varvara Richards, the present head of the service, described it,

> It's very difficult in our case to put a finger on it and say this was the beginning of
> learning assistance at the University. ...Jim Grey, in Registry, had an interest in it
> and did a little bit informally. A couple of faculty wives...did some work, and part
> of this was through the centre for continuing education, and part was in
> conjunction with the counselling services. But I think a lot of what [they] did was
> unpaid (V. Richards, 13.5.96)

Gradually the services were formalised and after a review in 1990 of learning
support across the campus and an extensive period of consultation with academic
staff in 1991, learning development was established as an academic unit in
conjunction with teaching development (the TLDU), funded as an independent
unit direct from the Vice Chancellor. The union of teaching development and
learning development appeared to be a successful one, allowing staff from the
unit to take a very proactive approach to supporting student learning.

Staff in the unit were initially designated as academic staff, but became excluded
from the collective contract at the end of 1995 on the grounds that they were
tutors. In the middle of 1996, most of the staff underwent reclassification as
lecturers in tertiary teaching and learning, signifying a shift in status and
recognition for the unit.

Programmes relating to writing included:

- orientation programme
- one on one support
- writing workshops, sometimes in response to requests from students or staff
- production of booklets and guides
- research into all aspects of writing

3.3.3 Other initiatives

In April 1993 a Working Party was set up to investigate student literacy skills, following an earlier investigation within the School of Humanities which showed that "all schools in the University were experiencing problems with students whose written language was not adequate for university study" (Report of the Working Party on Student "Literacy", April 1994, p.3). Terms of reference included:

- to examine the current standards of written English at entrance level and other language skills of students upon entry
- to consider whether minimum standards of written language competency should be prescribed for enrolment in all subjects in the University
- to examine the range of support measures available to students and staff to help improve the standard of written language
- to provide guidelines which will address the needs of students and academic and support-services staff to implement and develop relevant skills (Report of the Working Party on Student "Literacy", April 1994, p.7)

While conceding that more research was needed on student skills to address its first term of reference, the Working Party made a clear statement rejecting student testing at entry. Rather, responsibility for teaching 'higher' literacy was seen as the responsibility of the University. Further recommendations were largely reinforcement and extension of present strategies, and read more as a policy document than as an operational plan. Exact and specific responsibilities were not entirely clear. Nevertheless, positive action resulted; for example, the TLDU by 1996 was running a substantial orientation programme for in-coming students.

The document is particularly interesting for its attention to and positive comments on the New Zealand Curriculum Framework, which emphasises literacy and communication as essential learning areas and skills, and embeds literacy in programmes across the curriculum including science, mathematics and technology. The Working Party comments:

> We are not naive enough to assume that documents will change the way our world works, but we should be aware that many teachers are enthusiastic about the curriculum developments outlined above, and that this will have a *gradual effect*

on the literacy skills of students in the tertiary sector (Report of the Working Party on Student "Literacy", April 1994, p.17).

3.4 Victoria University

Victoria University offered papers on writing through the English Language Institute (ELI) and writing support through its student learning support services.

3.4.1 Student Learning Support

Student Learning support emerged out of the counselling service, becoming an independent unit in student services in the mid-1990s. Originally funded, like so many learning support services in other places, through contestable equity funding, the service by 1994 was supported through the student services levy.

All staff were classified as general rather than academic staff and employed on a part time basis. The coordinator's position was full time but job shared. In 1996 there were several part time tutors, working in the areas of maths, ESOL, and writing and study skills support.

Writing support services at this time consisted primarily of one-on-one support and open workshops on topics such as essay writing, sentence structure, referencing and paragraphing; these workshops were largely generic rather than subject specific.

Major questions for the service during this period were how to support ESOL students more effectively and appropriately and whether learning services should be faculty based or centralised. The coordinators were keen to see a move towards faculty based support, but felt that available resources and time limited specialised support for particular groups.

The service was supported by the Director of Student Services, but cutbacks at the time were seen by the director of the writing programmes as a potential threat to the continuity of a centralised service.

3.4.2 English Language Institute

Janet Holst, who designed and originally taught the generic writing paper 39.107 at Massey (see p.59), moved to Victoria in 1990 to set up and teach a similar paper. Originally proposed as a joint venture between the English Department and the English Language Institute, WRIT 101 was domiciled in the ELI. It had a similar focus to 39.107, but to meet the requirements that the paper be single-semester, the workload was compressed into four assessed writing pieces, with the same thrust of narrative, expository, argument and research piece (J. Holst, 21.5.96). Peer editing remained an aspect of the pedagogy. The paper was taught through three hours tutorial/workshop contact per week, most tutors being part time casual staff. In spite of the fact that a credit-bearing paper for ESOL students was available, some second language speakers did enrol in the paper.

3.4.3 Other initiatives

Initiatives to address writing issues began much earlier at Victoria than the two approaches now in place would suggest. A professorial board resolution in the mid 1970s expressed a need to address student writing skills, as did the 1977 Arts Faculty triennial plan. In the early to mid 1980s the Fulbright Programme funded three scholars from the United States to visit New Zealand – Richard Adler, Richard Young and, later, Ruie Pritchard. Their brief was wide ranging, and Adler and Young travelled the country doing course work, demonstrations, and seminars, as well as consultancy for the Ministry of Education. These visitors affected writing initiatives at universities other than Victoria, as the description below of the writing programmes at Massey demonstrates. Young and Pritchard also became involved with setting up a National Writing Project for primary and secondary education, which was supported by the then Minister of Education, Russell Marshall, but eventually abandoned due to loss of funding and the reform of the Ministry.

Young's visit also facilitated the formation of an inter-faculty writing committee to discuss the implications of his work for Victoria. Brian Opie, who had initiated the Fulbright application, following personal involvement with the Bay Area Writing Project, described the focus of the committee as being to create a

climate of change, to promote discussion about writing across the disciplines, and to formulate a plan to bring about a broad university approach to the teaching of writing. Eventually the committee produced a series of key recommendations, which I list here, as they represent the only attempt to introduce a writing across the curriculum initiative prior to the projects which form the subject of this thesis:

Recommendation 1. That the University endorse the concept of "Writing across the Curriculum" as the basis of a campus wide, long term attempt to improve the quality of student learning.

Recommendation 2. That the University establish a Centre for the development of a "Writing across the Curriculum" programme for this campus. It shall be named "The Victoria University of Wellington Centre for Writing" and shall be administered by a supervisory board composed of one representative of each Faculty and a Director. Its principal functions shall be:
1. The training of staff in the use of writing for teaching and learning.
2. Research into the field of writing development and its implications in New Zealand, and monitoring elsewhere.
3. Evaluation of and consultation with faculty about programmes, courses and methods.
4. Investigating the relation between the modes of writing common in work after graduation, and the modes of writing used on campus.
5. Participation in a National Writing Project if such project should be established (Final Report of the Interfaculty Committee on Writing Skills, Victoria University, 1987, p.1).

The particular significance of these recommendations is their emphasis on, not remediation, but the links between writing and learning. Drawing on the Bay Area Writing Project and international sources such as Elaine Maimon and Tony Fulwiler, the report is process and discipline focused.

These recommendations were accepted by the University Council, but were never implemented – in the words of Brian Opie, "the document just vanished off the map" (17.6.96).

3.5 Canterbury University

A 1993 meeting of English Departments from New Zealand Universities addressed the issue of teaching writing and the problem of 'remedial writing'.

The contribution of the Canterbury English Department included a discussion document written by Carol Acheson. The document discussed the question of whether universities should be involved in remedial teaching. Its basic answer was no, because:

> [a] university should not be expected to provide high school level teaching [and] to provide such teaching requires that the University expend more of its shrinking resources on the least capable students, many of whom are enrolled merely as an alternative to unemployment (C. Acheson, 1993, p.1).

Acheson went on to discuss, however, the need for bridging assistance to help students through the transition between school and university and described the piecemeal attempts of individual lecturers to deal with this problem.

The Writing and Study skills programme was set up to address this remedial or bridging issue. In 1981 the English Department employed a part time tutor to work with 23 students who were experiencing problems with writing. By 1990 the service had expanded, with 275 students referred to the service from a variety of departments. In 1991, a half time lecturer's position was established through contestable equity funding to extend the service and to position the service as a university-wide initiative, and the following year this funding was extended to establish the position on a full time basis. In 1993, with the demise of contestable equity funding, the Writing and Study Skills programme became a full time university-funded position, domiciled in the English Department but with a brief to service the entire campus.

In 1996, the situation had not changed substantially. With one full time staff member and a part time assistant working in the Writing and Study Skills Programme, Canterbury University had the smallest number of staff working in the field of writing support or writing tuition of all New Zealand universities. The English Department had no generic or subject focused writing programme and had, historically, been strongly opposed to such an initiative.

Writing programmes were generated through the Writing and Study skills programme as follows:

- lecture courses on tertiary writing
- one-on-one support service
- bridging courses (some of which target mature students)
- lectures within academic courses (e.g. Law) at stage 1 and honours level

Services were available to students across the whole campus at all levels, from pre-entry to PhD level, and students paid $20 to enrol. The service did not cater for ESOL students or for students with specific learning disabilities since these students were assisted elsewhere on campus.

The 1993 document prepared by Acheson concluded as follows:

> Because the Writing and Study Skills Programme has developed under the auspices of the English Department, it has taken an essentially academic approach to the problems...and has worked closely with faculty to assist individual departments. Compared with the expensive and elaborate composition courses or Student Learning Centres provided by most universities in New Zealand, Australia and North America, Canterbury's Writing and Study Skills Programme offers an effective and economical response to the growing demand for 'remedial teaching' (C. Acheson, 1993, p.3).

The effectiveness of the service had not been measured, but that it was economical could not be questioned. The only funding for the service was for salaries; there was no budget for support services, either in the form of secretarial support or for basic operational items such as photocopying, telephone, and equipment.

The tutor's position was highly autonomous. She had complete control over her own programme, but within the limits of having no support funding. Disadvantages arose from her autonomy: while it gave her independence, she had no one to report to, no one to appraise her working conditions or to recognise her achievements. Employed on a one year rolling contract, she had no sense of job security and without this she was unlikely to push for more support.

While there had, at times, been university-wide discussion of the possibility of providing more learning support for students, such an initiative was not, at this time, seen as in keeping with Canterbury's vision of itself as an elite university.

There was, as elsewhere, a reluctance to channel resources into such a service at a time when university funding was ever tightening. It seemed likely, therefore, that little change in the level of writing support or writing teaching would occur in the immediate future.

3.6 Lincoln University

Writing support was offered to students (both first and second language speakers) at Lincoln through the Student Learning Centre. Set up in 1993, the unit in 1996 was staffed by three part time general staff members: 0.1 for maths support, 0.7 for the coordinator and study skills position, and 0.5 for academic writing and language support. Originally part of Student Services, at the end of 1996 the Centre's structure and affiliations were under scrutiny, with a possibility of being linked in with the education centre, library and computer training.

Services offered by the writing component of the Centre included:

- one on one support
- workshop programmes generated by the Centre
- workshops/lectures initiated by academic staff
- a limited array of computer assisted learning packages
- setting up study groups
- peer tutoring in subject areas

The Centre was originally set up with equity funding to have a clear remedial function, in response to the needs of the high number of ESOL students. However, its staff took a developmental approach to their work, citing the Centre's work with postgraduates as an example. Research was not part of staff contracts, and, as one staff member stressed, with part time contracts and heavy demand from students, it was hard for staff to find the time (or the hard heartedness!) to pursue research activities.

Funding came partially from the student services budget and partially from self-funding: students were charged $15 to join the service.

The security and future of the unit at this time were unclear. The staff member I interviewed, Caitriona Cameron, was confident that the need for it had been clearly established, but she doubted that the developmental functions of the service were recognised and felt that there would always be uncertainty with the present shaky university budget.

Assuming the continuity of the Centre, future directions for writing support on the Lincoln campus were unclear in 1996. It is difficult for staff on part time contracts to enter fully into the life of the academic community, but the academic writing and language tutor hoped to create more integrated programmes with academic staff.

3.7 Otago University

Otago University offered a first year communications paper, Eng.124: Language, Style and Communication, taught through the English Department and jointly funded by the English Department and the Health Sciences Division. The paper was described in the Calendar thus:

> This paper is designed to teach students to analyse and produce effective speaking and writing in a variety of communicative situations. In the first part of this course, students are introduced to the basics of effective writing for academic and professional purposes. The first unit of the paper focuses on prose style. After reviewing issues of style, students learn to create and criticise explanatory speeches and to write effective essays. In the final part of the paper, we consider a wider range of communicative situations and examine communicative effectiveness in interpersonal settings. Here we will consider the differences in informal settings, professional settings, and cross-cultural settings as they imply differences in language choices. This expanded view will concentrate on the social messages associated with language choices and will include discussion of indirectness in language use, politeness conventions in language, and the art of listening (English at Otago: Courses available in 1997, Department of English, Otago University, p.10).

Eng.124 differed markedly in focus from other generic papers, largely because of its origins and client group. It emerged not from concern about student grammar, or the desire to increase student numbers, but from the fallout of the Cartwright Report, which was written in the wake of a major medical ethics scandal that erupted in the late 1980s. A group of Otago University trained doctors were implicated in the failure to inform women of the risks of certain forms of treatment they were given as part of a medical research programme. Concerned that their graduates lacked communication skills, the Health Services Division at Otago negotiated the creation of this paper with the English Department. Thus, Eng 124 was predominantly a compulsory requirement for intermediary health science students, although the class broadened over time and other groups of students, from Commerce or English for example, came to make up part of the client base.

In 1996 the paper had an enrolment of over 700 students. The paper was taught by one full time lecturer, four writing fellows (full time positions with a salary level two thirds that of a full time tutor), and casual tutors. The writing fellows taught six workshops per week, and were rostered to staff the 'duty desk' which was open five days a week. The class was taught through one lecture and one tutorial per week. Fifty-one tutorials operated in 1996, with tutorial size ranging from fifteen to twenty five students.

The largest client group for this paper was highly specialised and presented particular problems to the teachers. The intermediate health science year was highly competitive, with places at Medical School being allocated to students on a final grades basis. Many of the students were highly intelligent, but their focus was primarily on grades. Such a profile, compounded by the fact that the students were likely to have been science specialists from senior high school, made paper design and assessment problematic. Assessment procedures had to be rigorously standardised and course material designed for the specialist student. 70% of the paper was assessed internally and 30% by final examination.

The paper was broken down into three sections: style, speaking and critical reading (or rhetorical analysis). Grammatical knowledge, including parts of speech, was being built into the paper structure.

3.8 Massey University

Massey is the immediate context of the research detailed in this study. It was a front runner in New Zealand universities in identifying the market for writing papers and in providing some early writing support for one group of students. In the late 1970s one faculty began to address the place of writing in its curriculum, and the English Department also made a shift from its focus on literature to develop an unusual paper on writing.

3.8.1 Writing: Theory and Practice

The first paper on writing at Massey University (and, indeed, in New Zealand) was the brainchild of the then Head of the English Department, Professor Roly Frean. Far from being seen as a 'service' paper on academic writing, the paper emerged out of its creator's fascination with the relationship between philosophy and language or writing.

Such a paper was a radical change of focus at a time when the function of an English department was to teach the canon of English Literature. This time was the beginning of a period (which is still continuing) during which English departments have debated and changed the focus of their teaching and research.

> From [Professor Frean's] point of view it was a philosophical study of writing. And he named it: Writing: Theory and Practice. The theory came first in every way. ...I think it was a marriage between philosophy and literature that generated the idea for this paper...looking back on it. It seems obvious now – the notion of looking at writing, the process, the phenomenon of writing as opposed to the routine literary critical motions that the department traditionally went through was new and startling. ...There was a lot of resistance (R. Neale 21.12.94).

> But I think it's also part of a much wider debate which is what is English, which, as you know, has undergone such a revolution (J. Muirhead, 30.5.95).

The paper had evolved over 16 years, and experienced a change of paper coordinator, but its focus remained constant and unique in the context of the papers on writing which have sprung up in New Zealand universities during this time. The paper coordinator described his approach:

> We start with language, there's a certain amount of basic language theory: how does language work? Then there's a narrowing in onto those qualities of language as encapsulated when it gets written, encapsulated into 'pretend/realistic' writing exercises that talk about broad issues: irony, mimesis, metaphor. I try always to bear in mind that writing *does* something (R. Neale, 21.12.94).

His focus on the idea that writing *does* something, writing as transactional, underpinned the paper. RAFT (Role-Audience-Format-Topic) and peer editing were major pedagogical tools, introduced by Richard Adler during his Fulbright visit in 1985. Another Fulbright visitor who contributed to the pedagogy of the paper was Hank Harrington of Montana University.

Such an approach should ideally have geared the paper for use across the campus, since, arguably, the transactional underpinning made it more generic in focus than those papers that hinge on essay writing as a focal genre. However, the paper also used literary texts (*Alice through the Looking Glass, Huckleberry Finn* and *The Envoy from Mirror City*) to illustrate language theory, and such texts were unlikely to recommend the paper to, for example, science students who were looking for a functional paper which would improve their writing skills.

3.8.2 Applied English/ Written Communication

In 1996 the paper Written Communication was one of the biggest generic writing papers in New Zealand (only Otago's writing paper compared in size). It was taught on multiple campuses (at Palmerston North, at Albany, and conjointly with five polytechnics) and available to students through three distinct modes: internally, extramurally and by email (Ward and Rhodes, 1996). In 1996 total number of students completing the paper reached 605.

The paper description read:

> Written Communication (Applied English)
> This course aims to assist students to formulate and express ideas effectively. It focuses on the skills that students need at university and beyond to achieve competence in a variety of written tasks (Calendar prescription, 1997).

The paper emerged some years after the inception of Writing Theory and Practice. John Muirhead, senior lecturer in the Department, listed the following influences:

- several visiting lecturers to the University who taught writing in North America, including Richard Young and Hank Harrington
- a strong indication from around the campus that student writing skills were poor
- a feeling that 39.106 was not appropriate to the needs of students who wished to improve their writing skills in a pragmatic rather than theoretical/philosophical/literary sense
- a fear that other parts of campus, such as Business Studies, would take ownership of the teaching of writing
- a reassessment of the nature of English departments, their curricula and their territory
- concern about a falling student roll (J. Muirhead, 30.5.95).

Wide discussion took place across the university to see if there was a demand for a paper on practical writing skills, including a questionnaire that drew a strong favourable response. One of the issues debated was whether such a paper should be credit bearing (an issue associated with whether this was remedial work or not). A decision was made to offer it on a credit basis, not on philosophical grounds but on the grounds that overloaded students would not otherwise take the paper.

There was, from the beginning, high level support from the department for the paper:

> I don't remember any particular debate about whether the English Department should muddy its hands. ...For the longest time it was generally understood that every academic member of staff...would contribute to the teaching of the

programme. ...It wasn't considered 'infra dig' and we were quite concerned to make sure that it did have a legitimate academic status. I think the concern was could we do it, would we take it on, and how would we train ourselves to do it (J. Muirhead, 30.5.95).

Janet Holst, who was employed to design and lead the teaching of the paper, described with nostalgia the commitment of the department to produce a successful paper, and the pressure she felt as a consequence:

> I wanted this to be kind of state of the art. ...I wanted to read all the theory and I did. I read language across the curriculum and I read process and more genre theory. ...It took me quite a while, looking for a structure. ...The thing that I did experience there was a huge amount of anxiety. ...There was a lot of fear of teaching writing. ...They set up writing workshops for the staff (J. Holst, 21.5.96).

The paper finally focused on process, including spoken skills as well as written skills, and some effort was made to integrate the writing needs of different disciplines into its structure. Originally the paper was taught in one lecture and one tutorial/workshop per week.

Over time, and with a change in paper coordinator, the paper smoothed out and became more orientated to essay writing and argumentation. The oral communication aspect was moved into a separate paper on Speech Communication. The lecture was dropped and the paper run on the basis of one two-hour tutorial/workshop per week over two semesters (except at Albany where it was compressed into a single semester with two two-hour tutorials/workshops per week). Casual tutors took over a large proportion of the teaching, due, primarily, to the rise in student numbers.

The 1996 paper coordinator described the philosophy of the paper thus:

> I would hate to boil it down to one. There are at least two balls in here at the same time. One ball is simply very practical, hands on nitty-gritty stuff, all the way from where do you put your commas to...what is a thesis, and what is one good for? That sort of thing. But the other one always, on the back of my mind at any rate, ...is that writing is a creative process, even when it's not stories and poems. ...And that what other academics would call real learning happens in this paper that most other academics think of as a surface paper. That when a student is forced to write about something, they actually learn about the topic they're writing on, in the writing process, in ways that they would not learn, in any other way. ...Not only am I helping them learn to put their commas in the right

place...but I am asking them...to write about a thing in their field, in ways that they would not otherwise have done. And I think that makes a student grow (K. Rhodes, 20.5.95).

The paper began with the writing process, focusing on historical and personal narrative and descriptive writing. From here it moved more strongly into argumentation, with several assignments orientated directly towards academic writing (specifically looking at essays) and research writing. Key pedagogical tools were peer editing and workshops that use writing extensively as a means of learning.

The paper was designed for first language speakers, and a caution at the beginning of the course materials specified its intended audience or client. Its focus was generic:

> I think of it as teaching life skills in writing. That no matter what might be asked of a student in a...desk job, or in any kind of job where they are writing to or for clients, that the kind of skills they would learn in this class would be of lifelong use. ...So, because of that, several people from what we call here 'the other side of campus', the science and practical side of the campus, many of them are requiring this paper of their students, because they see that benefit (K. Rhodes, 20.5.95).

In 1995, the paper was conducted for a small number of students (10) via email. While the student still received the study material in hard copy, tutorials and discussion took place on an email list. The paper was generally evaluated positively by students.

Plans were in place at the time of investigation to restructure the paper so that science and technology students could be separated from arts students and assignments focused on the genres and styles appropriate to their needs and disciplines.

3.8.3 Business Studies Writing Centre

The Business Studies Faculty Writing Centre emerged out of the Business Studies Faculty's concern with its students' literacy levels. The earliest attempt to address student writing abilities in the faculty occurred during the late 1970s

when all students were required to pass a series of units on communication skills (known as the technical writing concepts module) as part of a first year management paper. Later this module became the foundation of the communication papers within the Faculty.

In the early 1980s, however, a survey was undertaken (by a working party set up by the then Dean, George Hines, called the Information and Communication Group) to measure the level of students' writing skills and thus ascertain whether writing problems were symptomatic of students' limited skills or insufficient motivation. The results of the survey suggested that motivation was the problem. This result had consequences for the approach taken to improving student writing skills:

> Many people were saying, oh if only the high school would do their job, then we wouldn't have to put up with this. But this [the survey] sort of changed the focus a bit, and if people were competent when they arrived at university, or the bulk of them were anyway, then maybe there was something that we, the faculty, were doing or not doing, which was giving us what were perceived to be poor results. And so I think that did serve as an impetus to some people to look at the stress they themselves placed on literacy in their assignments. And I think some of us observed that there are quite a number of university papers...or Business Studies papers, where they didn't have to do much actual writing. ...So that, to my way of thinking, was one of the most important aspects in terms of the department, or the faculty's decision to establish this writing centre (F. Sligo, 14.5.96).

The Writing Centre was set up as a part time position in 1985 by Shawna McIvor (a Canadian who had experienced Writing Centres in North America) and became a full time position in 1991. Originally the name was contentious; the Faculty had planned to call it The Writing Centre but when this was strongly opposed by the English Department, it became the Business Studies Writing Centre.

The Centre was initially paid for out of departmental funds (with each department in the Faculty contributing a proportion of the tutor's salary). In 1991, however, when the position became full time, responsibility for funding moved to the Dean's Office, and it retained this status. In 1994 another half time tutor's position was added to support the work of the full time staff member. The Writing Centre staff were employed on tutor contracts which, in 1996, were

defined by the Vice Chancellor as precluding research opportunities. Both staff members had graduate degrees in English Literature; one had a teaching qualification and extensive teaching experience.

The client group for this Centre differed considerably from that serviced by other Student Learning Centres around the country. Services were free but available only to Business Studies students, although the Writing Centre staff occasionally provided workshops on other parts of the campus, if requested, since these services were not provided by any other body. While the University did at this time have a Learning Support Network, no campus-wide study or writing support was offered through the Network. The Centre was unique in offering a service to extramural (distance) students and this remained a significant part of the Centre's work.

Services provided by the Writing Centre included:

- one-on-one discussions
- drop in service
- extramural pre-reading service
- Summer School and weekend workshops
- workshops/lectures within credit papers (Palmerston North and Albany campuses)
- maintenance of a library and resource room
- preparation of resources
- off campus workshops
- learning disability support

Staff saw the services as primarily developmental rather than remedial, although some remedial services were provided. For example, there being no other service to support students with specific learning disabilities, the Centre provided programmes for these students. The focus of the services was on supporting the development of tertiary writing skills, in particular the writing skills required in a business context or a tertiary business context.

In 1996 the Centre seemed secure, with the possibility of expanding. Plans were in progress to create an OWL (On-line Writing Lab) to meet the particular requirements of extramural students. Planning was also underway to include a maths tutor and a specialist ESOL tutor. ESOL students were a particular concern to the Centre, since, again, few support services were available, at this time, for them on campus. The only other source of support was the English Language Centre, which was a profit-making venture and provided only limited support services to students. The Centre was under pressure from ESOL students to provide extensive proof-reading and language services which would have monopolised staff time to such an extent that services would be inadequately available to first language speakers.

Also under consideration was how to provide equitable support for business students across the multi-campus structure. In 1996 the service was based at the Palmerston North campus, with some efforts made to provide workshops on other campuses.

3.8.4 Other initiatives

In November 1990 a Working Party on Student Literacy was established by Academic Committee as a response to a letter from a student counsellor expressing concerns about pressure on the counselling service to provide writing support. The terms of reference were:

- *to establish the incidence and scope of learning difficulties among students currently enrolled in the University, with particular reference to levels of literacy*
- *to assess the adequacy of existing diagnostic and remedial services and programmes of tuition intended to ameliorate literacy problems among students*
- *to assess the need for additional services and tuition in the field and to recommend how these needs may most effectively be met in the immediate and longer term* (1991, p.1)

Student needs were assessed through a survey of heads of departments, a small focused assessment of one group of students, a questionnaire-based assessment of student needs (using a small faculty based group), and a summary of the number of students actually using support facilities. The survey of HODs

suggested that around 20% of students were experiencing problems relating to literacy; the assessment of one small group suggested that the number was somewhat higher at 43%. The number of students attending the Business Studies Writing Centre in that year supported this higher figure: approximately 30% of students in the Business Studies Faculty had used some of the Centre's services in 1990. The student survey showed that between 79-82% of students would seek out courses on reading, writing and study skills.

After listing the writing support services on campus, the report identified a series of problems:

- literacy support services were uncoordinated
- literacy support had a limited profile amongst students and staff
- there was no procedure for identifying students with problems
- literacy and learning support on campus did not have a research basis, which in turn affected funding structures
- funding for most services was tenuous
- most staff were employed on short term contracts, which hindered long term planning
- there were few support services for extramural students
- students with specific learning disabilities could not be supported because of staff overload
- support for students often came too late

In response to these problems, the report offered a three part model to address literacy on campus. The model comprised a centralised literacy consultancy, an extension of already existing credit papers, and a university policy on tertiary literacy "which would require all faculties to take responsibility for producing graduates with tertiary literacy skills" (Report on Student Literacy, 1991, p.9). Resourcing required was minimal, as only the consultancy required staffing and that needed only two new positions since other positions could be taken from existing services.

In 1994 a review of learning support services on campus was undertaken. The review was a lengthy process which involved surveying learning support services in New Zealand and elsewhere, and calling for submissions from academic staff, learning support staff, students, and any other interested parties. Its conclusions were that learning support at Massey University was under resourced and inadequately supported by university management. It recommended a centralised model of learning support with staff employed on full academic contracts; one writing consultant was included in this model.

3.9 Key themes

Several common themes emerged out of the interviews. A key pedagogical theme was the connection between writing and learning or writing and university culture. Most of the teachers of generic writing papers discussed the connection between teaching writing and teaching students to think in particular ways:

> There's this perception out there that...if people have problems with writing, they're largely mechanical, you don't know how to write a sentence, you don't know about punctuation, you don't know how to write a paragraph, and they seem to separate it from the idea of writing being a way to learn, the way you learn to think and rehearse (J. Holst, 21.5.96).

> In our case students saw our course as a hurdle, and one of the most important things we've had to say to them is, we're going to do things for you that will help you in the rest of your career at university...you're going to be glad you took this course in a year. And I think a lot of them are, even if they're not so glad at the time (J. Dolan, 2.12.96).

> So what I wanted to do was basically have something that was academically oriented, not just a basic writing course, but something that would teach them versions of academia (D. Starks, 21.10.96).

Donna Starks' comments connect with another theme, which is a discrepancy in perceptions between whether the teaching of writing is remedial or developmental. With only one exception (Rosemary de Luca of Waikato), teachers of writing in both student learning centres and generic writing papers stressed the academic nature of their work and its developmental function. Interviewees did not think they were doing something that schools should be doing; rather they saw themselves as initiating discussion and making explicit

cultural expectations and cognitive processes required by tertiary institutions. Most saw teaching grammar as peripheral to their work.

However, there was also an awareness that other perceptions differed from those professionally engaged as tertiary writing teachers. Caitriona Cameron spoke explicitly of this discrepancy between those who initiated the Student Learning Centre at Lincoln, as a remedial centre to help ESOL students, and the broader developmental vision of the first coordinator who shaped the first services of the Centre. Placing student learning into student services structures or frameworks (i.e. with counselling and health) positions learning support as remedial or problem-based and reflects the institution's construction of the role of learning support. Paper coordinators of generic writing programmes protected themselves in various ways by specifying the nature of their papers or by giving a very complex first lecture, but outsiders still tended to direct students with problems to these papers. John Dolan talked of the importance of discussion with others about what such a paper can achieve:

> When Health Science first engaged our services, they wanted us as a year long test. …I think over the four years we've been teaching the paper…that they're grateful for the fact that the students they get can now do different things. …But I think you have to ask, what does the university want from us? …In our case it meant telling the university (J. Dolan, 2.12.96).

This debate concerning whether the teaching of writing is a remedial or developmental function links into another critical issue: the capacity to do research. Many interviewees deplored their inability to conduct research. Teachers of generic writing programmes pointed to their heavy marking loads and the administrative burdens associated with large writing papers which left them with no time to conduct research, thus hindering their professional development and their opportunities for promotion. Two controllers of large papers felt that the usual conditions of academic employment, such as sabbatical leave, were not available to them because no other member of their departments could take over the administration of their papers, yet the papers could not be dropped for a year because they are such huge EFTS earners for the departments.

Writing teachers within student learning centres were likely to experience frustration about research, due to both work overload and conditions of employment that preclude research. Decisions in the 1995-6 period gave counter indications of how this situation might develop in the future. At Massey, as we have seen, a decision was made that non-academic staff were not permitted to enrol for higher degrees or conduct research as part of their employment, and the university was proposing to shift learning support from academic services to student services. By contrast, at Waikato's TLDU, in 1996, staff were transferred from the tutor scale to the lecturer scale and at Lincoln there was a proposal to move student learning services out of student services into a position more in line with Waikato. Only at Auckland were staff in the comfortable position of having the option to do research and to have their positions transferred to the lecturer scale following application and evidence of an appropriate publications record.

Funding and resourcing were perceived as major problems. However, learning support staff and teachers of writing papers exhibited differing concerns. Learning support staff were more likely to discuss the problem of meeting all the needs that they were aware of and the insecurities relating to their positions. Teachers of writing papers were more likely to be angry, because of the perceived inequities of their own situations (as outlined above) but even more because of the conditions of employment of their own staff (i.e. the tutors who teach workshops/tutorials), which they perceived as unjust. I include here two long quotations to demonstrate the depth of feeling on this issue:

> The curious thing about writing is that on the one hand there's this schizophrenic institution that...exists on writing, and careers are structured on writing, and...the whole system, everything, is based on writing in New Zealand anyway, if not in the States, and yet any work with that kind of writing is seen as very low level, or ghetto, or...what is increasingly legitimately called in the literature, shitwork. You know, you don't have to even put quote marks there, and then the...other sort of contradiction that...people doing it know that they're underpaid, they know that they're putting far more hours than they should do into it. ...The average profile of our tutors, it's probably the same at Massey, is somebody in their late thirties, having finished a second degree, probably on a third degree, with anything from eight to twenty years teaching experience, where some of them are professional writers with teaching experience as well. ...
>
> And yet the university...doesn't have a scale to reflect that; they're paid as if they were an honours student, or an MA student going into a class with a book of

Virginia Woolf and talking about the themes that come out in chapters one to six. And these writing people have to have students for three hours, one is a double, and they have to move them around and vary the activity and mark their work, and you know, organise groups and, when they're assessing the work, not just mark it on the surface, stay off the page as much as they can and climb inside the writing and see what questions they can ask about it. The very skills that the...subject staff lack, and you know they can't see what's wrong with the paragraph, so they're just saying, go over there and get it fixed. And it actually takes time to climb inside and see how the sequence is, or the idea is buried and isn't expressed, and what the student might be wanting to say and hasn't been able, or how the piece might be split, you know? And yet, the other half say they know they're underpaid, and yet they're prepared to do it, because they find it satisfying. It's not necessarily that they're desperate for money. They actually find it satisfying and probably they also do find it prestigious working for the university. It really...it's quite serious I think, and I can't see it ever being heard, unless you bring the senior staff in to actually teach and experience it, and as long as they're pushing it out...you become like a noisy fly. It irritates them (J. Holst, 21.5.96).

And that's exactly what the teaching of writing is, currently, economic slavery. In the States it's called the writing ghetto, it is a very real issue. You are stuck in writing. We call them comp dogs, as in the dogsbody who teaches composition is a comp dog! Now, there are certain people willing to put themselves in that position. The graduate students I was talking about. You bet, you know, "Give me a degree and some credits and a little bit of money to live on, on the side, I'll do your comp dog work for you." But...to pay a tutor what the workload really involves is not going to happen. And I can't even say it's not going to happen in the near future. It's not going to happen. Period. So you have to find people who are put in the position of being required to take that pay, or nothing. ...So it is a nasty political issue, and it is to the power structure's benefit to deny that it is a political issue, and say no, it's simply an academic issue. You create the EFTS, you get the funding. Well, the funding for the EFTS is not equivalent to the time you put into it, or they will say, well cut back on the time! Well, if you cut back on the time, you cut back on what you're actually teaching of course, you don't put out the product. So to keep the product, and of course they always want product quality, oh yes, we have to have a quality whatever, well you can't put out the kind of quality at that kind of pay rate. And so, it will continue to go this way as long as we have a captive slave. And I'm quite...you know, quote me, "It is a slave market". As long as people are required to take that pay (K. Rhodes, 20.5.96).

One final issue was the isolation of many of the writing teachers. Teachers of generic writing papers were likely to be the only writing teachers in a department focused on literature or some other common subject (i.e. they were likely to be the only member of the permanent staff engaged in a particular tangential subject area). Some learning support staff, particularly those at Massey, Lincoln and Canterbury, were in isolated positions, lacking collegial support. And the interviews indicated that writing teachers on different parts of the same campus or employed by the same university did not have any professional or personal

link. However, a national development at that time was making small steps to improve the isolation of people teaching writing in New Zealand universities.

3.10 Tertiary Writing Network

In December 1995, Janet Holst (ELI, Victoria) called a meeting of all teachers of writing at tertiary institutes in New Zealand. The purpose of the one day colloquium was to discuss research and practice and to debate whether a national body should be set up to support people working in this field. The colloquium generated considerable interest (participants came from as far south as Dunedin and as far north as Auckland), and was the first time that writing teachers from all over New Zealand had met together. Many were unaware of each other's existence, let alone the nature of other people's research interests and teaching activities. This was a day for first meetings, and the largely unstructured day maximised opportunities for discovery. The group agreed to set up an organisation, The Tertiary Writing Network (TWN).

Contact amongst the group was re-established the following year (December 1996) when Massey hosted the second colloquium with the theme 'Writing beyond the margins'. This meeting was structured as a conference rather than an informal discussion, with calls for papers and workshops going out to all universities, polytechnics and colleges of education in New Zealand. At this colloquium a steering committee was established to investigate the acquisition of not-for-profit status; an email discussion list was set up within days of the colloquium. Another formal colloquium was planned for 1998, with, possibly, regional meetings, or a small, national, informal 'sharing of good practice' meeting in 1997.

While a professional organisation is not a magical solution to the problems experienced by tertiary writing teachers in New Zealand, it has the potential to provide benefits and support. Teachers of writing need no longer be isolated; there exists a wider discussion into which new teachers can connect. The organisation may help foster a research culture (particularly in the shift from

informal discussion to a context that allows research to be formally presented and published), and this, in turn, may affect both the practice and the status of writing teachers. This organisation has the potential to create a community of change and development.

3.11 Conclusions

Teaching writing in New Zealand universities is a recent curriculum development. Programmes and approaches have developed largely in isolation. This chapter has brought together a national picture of this development at the time at which the writing projects in this study took place, detailing programmes and drawing out key themes.

The over-riding theme of this chapter is that the teaching of writing in New Zealand universities has been impoverished. This impoverishment has been manifest in a number of ways:

- both writing support and direct teaching of tertiary writing are recent developments in the tertiary curriculum. In most institutions, writing courses and support have emerged in the last twenty years.

- no university has addressed the issue of student writing systematically or as a central curriculum concern. Instead, writing courses or writing support have emerged in an ad hoc manner as the initiatives of individuals or specific departments.

- in most cases, writing teachers have been isolated within their institution. Teachers of writing tend to be employed in departments where writing is peripheral to core business (for example, the writing teacher in an English department focused on literature). Writing consultants in support units often work alone. Furthermore, writing teachers within the same institution (for example an academic teaching a writing paper from an English department and a writing consultant in a learning centre) generally seem to have had no

contact with one another and often don't see themselves as being professionally connected.

- until recently, writing teachers had no connection with a national professional body and there appears to have been no connection across universities. This again emphasised their isolation.

- the resourcing of the teaching of writing has generally been very poor. Tutors in writing courses and writing consultants in learning centres have tended to be employed on casual contracts and paid at a rate which does not reflect their experience or skills or the complexity of the task they are engaged in.

- writing teachers and consultants have often been denied – either directly or indirectly – the normal rights of academic staff, such as the opportunity to do research.

- the scope of experimentation and innovation in the teaching of writing in New Zealand universities appears to be very narrow, i.e., at the time of this survey there were no WAC programmes or Writing Centres, and no-one appeared to be using writing-to-learn activities in their teaching. This may be attributed to the lack of research funding and opportunity, or it may be that employment conditions have been so constrained that opportunities to read and think strategically have been limited.

- a further issue which may have contributed to the lack of innovation in this field is that because the teaching of writing is such a recent phenomenon in New Zealand, many teachers of writing in New Zealand do not have a research background in this field. Most come from related disciplines such as literature or education or even from second language teaching, and have gained their knowledge 'on the job'.

These factors, then, point to the impoverishment of the teaching of writing in New Zealand universities at the time of this study. But, most crucially for our

projects, there were no precedents in New Zealand universities for either a writing for sciences course or an integrated writing in the disciplines programme in the sciences such as we were undertaking. In these circumstances, it was necessary to discover how writing in the sciences had been addressed outside New Zealand. The next chapter considers this broader context and shows how we developed the ideas which informed our study.

Chapter 4. Teaching writing in the Sciences

These students do not have much respect for anything in the humanities which they tend to see as "soft", "wishy-washy" or the dreaded "touchy-feely" (Morgan, 1997, p.135).

As we have seen in the previous chapter, programmes to teach writing are recent innovations in the New Zealand tertiary curriculum: the first writing paper was established in 1979, the first learning centre at a similar time. In the late 1990s writing is still not established as a part of the tertiary curriculum: there is, for example, no equivalent to freshman composition in any New Zealand university and learning centres are still positioned primarily in service roles, outside academic structures. That there is concern about student writing skills in New Zealand universities in the 1990s is clearly documented: whether there had been similar concern before the late 1970s is difficult to establish. In other parts of the English speaking world, by contrast, concern about student writing skills, and programmes to address it, are long established, if still hotly debated.

When faced with the question of how most effectively to teach writing to science students the teams constructed for this study could find no historical precedent in New Zealand, apart from the generic courses taught through English departments. We therefore began with an investigation of how writing was taught in the sciences beyond New Zealand, and discovered that the long standing concern for student writing in all disciplines had been converted into established programmes of instruction and support in other parts of the English speaking world. Models developed in the United States (and to a lesser extent those in Australia) became the basis for the projects developed in this study.

This chapter, then, looks at the broadest context of the study, at the various models for teaching writing to science students, focusing primarily on the United States context but with some reference to related studies in Australia.[iii] In

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[iii] Because a WAC model was adopted for this study, only those Australian studies that relate to this model are included for discussion.

particular it focuses on the model that informed this study: writing across the curriculum, a cross disciplinary movement which has been established for 25 years in tertiary institutions in the United States.[11] Because there is a huge range of approaches to writing available (sometimes the literature gives the impression that there are as many approaches as there are universities in the United States) this chapter concentrates generally on the main types or models of writing instruction available, taking a broad, generic focus.

I have limited the scope of this discussion to courses which either directly teach writing skills or integrate writing into content courses; I have not, for example, included extensive discussion on the use of writing centres, writing advisory committees or writing fellows. This is because we were looking for models which could be applied to the context in which we were working. These alternatives were not options for the projects we were undertaking, because we had to work with existing resources and structures.

For the same reason, no attempt has been made to include a full discussion of the Australian communication context, which has been hugely influenced by Halliday's work in systemic linguistics. I have not included a discussion of systemic linguistics as a theoretical basis for examining writing in the disciplines, or examined those articles that take such an approach, for the pragmatic reason that we did not have a systemic linguist on our teams[12] and we were not working within a timeframe which would allow for retraining.

This chapter, therefore, looks at models for teaching writing to science students that could be adapted to a New Zealand context. The structure of the chapter is as follows:

- the generic writing course (for example, freshman composition). This section discusses the history of the generic writing course and its strengths and weaknesses.

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[11] The initial literature survey was conducted in 1993-4 but has been updated for inclusion in this study.

[12] We did investigate the possibility of co-opting someone with such skills into the teams, but no-one at the university was trained in systemics.

- writing across the curriculum. This section summarises the historical development of WAC and its two theoretical strands: writing to learn and learning to write (also known as writing in the disciplines).

- writing in the disciplines. The final section of this chapter provides a detailed discussion of the strengths and weaknesses of three alternative approaches to teaching writing in the disciplines (the English department approach, the integrated approach and the collaborative model) and finishes with an extended discussion of collaborative models.

4.1 The generic writing course

Of all western countries, the United States seems to have the fullest tradition of teaching writing as part of the tertiary curriculum. While, as we have seen, writing instruction did not become a distinguishable part of the curriculum in New Zealand until the late 1970s or early 1980s, it has been well established in a variety of forms in the United States for at least a century and can be traced back through the history of rhetoric (Russell, 1991; Miller, 1991; Spear, 1997).

As in New Zealand, the earliest direct approach to teaching writing skills in the United States was the generic writing course, most commonly known as freshman composition, taught through the English department (or its institutional equivalent). It is not necessary here to give a full discussion and history of freshman composition; the reader is directed to some of the excellent books and articles which do this (see Ohmann, 1976; Berlin, 1988; Miller, 1991; Spear, 1997). Instead, this section considers the rationale behind the development of freshman composition, the development of the curriculum, and the implications of such a course for students in science.

A number of writers (Russell, 1991; Spear, 1997) have commented on how the generic writing course was generated in the United States by a literacy crisis at the beginning of the twentieth century caused by the influx into universities of people from "more diverse backgrounds and geographical locations" (Spear, 1997, p.321). The original writing courses were seen as remedial, designed to

upskill those without the necessary background to succeed at university. Similar influxes throughout the century (for example, after World War II) have led to subsequent literacy crises, generating adjustments to the freshman writing course or new writing initiatives. Writing centers and the writing across the curriculum movement, for example, have also been seen as generated by literacy crises (see Russell, 1991; McLeod, 1992; Carino, 1995). In New Zealand, by comparison, the university population remained relatively homogeneous until the early 1980s when the economic downturn and changes in immigration policies led to a more diverse student population. It is interesting to note that it was at precisely this time that the teaching of writing started to become an issue in New Zealand universities.

At present the generic writing course is still the most common form of writing instruction within tertiary institutions in the United States (Spear, 1997). In many universities, a generic writing course in first year is compulsory for all students, whatever their majoring subject. Science students in universities in the United States have, therefore, most commonly, throughout the twentieth century, been taught writing in a generic writing course through the English (or equivalent) department.

These courses have their advantages and their champions. One of their strongest claims is that they teach 'transferable skills' that may be applied in a range of contexts, from mechanical skills, such as punctuation and paragraphing, to more complex skills of, for example, argumentation or the structures of "academic discourse"[13] (Bergmann, 1994). Since the beginning of the twentieth century, writing instruction in its generic form has developed through a series of ideological positions (see Bruffee, 1984; Berlin, 1988) or "rhetorics" (Spear, 1997), including foci on the writing process and self-expression to a focus on critiquing varieties of professional/academic English (Bizzell, 1982). Clearly, the curriculum of freshman composition has not been constant since its inception but

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[13] Discourse in this context is taken to mean the complex set of rhetorical moves used in a particular context such as an academic discipline (see, for example, Linton et al.).

has, nevertheless, through its varied forms, maintained a generic or transferable focus.

Further clear advantages of such an approach are administrative. A single paper or course fits neatly into a programme and is highly visible, so that the institution's endeavour to teach writing skills to all students can be identified. Furthermore, in the United States, freshman composition has proved cost effective: it can be taught by graduate students or temporary faculty, and, in being thus staffed, it provides tangential support for graduate programmes in allowing students, who might not otherwise be able to afford to attend such a programme, to earn enough to fund their studies (Miller, 1991).

Further advantages of such generic courses are the credibility of the teaching (administrators see an English department as having the 'credibility and expertise' to teach required skills) and the notion of having all essential skills 'covered' so that subject specialists are then freed from the requirements to teach transferable skills such as essay writing and punctuation. And, in turn, placing the teaching of writing in English in this way gives writing a 'home', a reference point, a credible place where expertise can be found by anyone who needs it (Waldo, 1993).

Despite these apparent advantages, freshman composition also has its disadvantages and its critics. The first criticism of 'generic courses' is that they are based on an anomaly, arising from their origins. Prior to the turn of the century, universities in the United States were privileged institutions, attended only by the elite. Students were assessed orally rather than through written examination or assignments. Russell, citing Miller, states that "writing was so embedded in the everyday orally based practices of that class [the upper class] that it was largely transparent and required little or no instruction beyond the elementary school" (1991, p.4). In other words, the language of the university was the spoken language of the upper class, transferred to paper. This single, privileged literacy could be transferred to any context and be 'correct', leading to what Spear calls a "universal literacy":

> Freshman writing…was supposed to reintroduce a standard of universal literacy in an environment where there was no longer agreement about what the concept meant. Writing instruction worked from assumptions about standards of literacy as fixed, universal, acontextual, and generalisable; from assumptions about content, which exists in subject areas, as distinct from expression, which is the realm of writing instruction; and from assumptions that students will have already learned the generalisable, elementary skill of correct and well-organised writing by the time they get to content courses which, in turn, are assumed to be the real meat of higher education (p.321).

Russell (1991) sees the debate about the validity of freshman composition as resting on a specific set of questions. First, is writing a single, basic skill that simply records speech or thoughts or things or is it a complex and varying task, determined by context? Second, is the teaching of writing a remedial activity or is it a developing process; in other words, is writing determined by the disciplinary context and task? Thirdly, is the university a single community, or is it a series of communities in competition with one another and finally, is the aim of the university disciplinary excellence or is its goal social equity?

Freshman composition or the generic writing course, then, has originated from the position that writing is a single, transferable task (Rose, 1985, refers to this as "the myth of transience"); that the job of writing instruction is remedial; and that the university is a single community into which students need to be enculturated. And while the generic writing course has undoubtedly developed and changed over the last 100 years, critics (Rose, 1985; Russell, 1993; Linton et al., 1994; Spear, 1997) argue that the basic principles outlined above still apply, that universities have never adjusted their thinking to a context which has changed dramatically through the diversification of both the tertiary curriculum and the student population. In other words, critics of the generic writing course adhere to a very different ideology from its supporters, seeing writing as a continually developing skill embedded in context and audience and the university as a community comprised of a series of micro-communities, each of which uses a different variety of academic or professional English.

A further difficulty for the generic writing course, according to its critics, is that if it is seen as a remedial activity, something which must be 'dealt to' before real learning can be engaged in, writing instruction tends to be marginalised within English departments or relegated to a 'service' position, which English

departments view ambiguously, possibly as appropriately their task but generally as peripheral to their key strategic role of teaching literature.

The generic approach, then, has been subject to considerable critique in recent years. The critics' approach has been largely informed by a more recent approach to teaching writing in the university: writing across the curriculum (WAC).

4.2 Writing across the curriculum: Alternative approaches.

4.2.1 History

Alternatives to the generic writing course emerged out of the writing across the curriculum movement in the USA, a movement which began to develop in the mid-1970s and continues to develop through the last decade of the twentieth century, being now in its second, or even third, stage. Because a key theme of this study is the relationship between practical WAC programmes and the contexts in which they take place, a short historical background is provided.[14]

The WAC movement in higher education in the United States began, ostensibly, with a 'crisis of literacy' taken up by the press and reported in a 1975 *Newsweek* cover story: "Why Johnny can't write" (McLeod, 1988; Bazerman & Russell, 1994). The crisis occurred over an apparent drop in National Assessment of Education Progress figures on writing skills between 1969 and 1974. As Russell (1991) observes, this was not the first 'crisis of literacy' to hit education in the USA, but it was the first to occur at a time when organisations had sufficient flexibility to respond, and when a theoretical basis existed on which to establish a writing in the disciplines programme. The reaction from the media ensured widespread concern and a willingness on the part of educators to address literacy at secondary and tertiary level.

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[14] David Russell's 1991 book, *Writing in the academic disciplines, 1870-1990: A curricular history,* is generally cited as the key descriptor of the history of WAC. For this reason, the following brief history rests heavily on his work, although I have included references to other sources where relevant to highlight the themes pertinent to this specific study. Readers pursuing a more complete history of WAC should refer to Russell's 1991 text, and to his social interpretation of that history (Russell, 1990).

Although this critical moment is most commonly seen as the birth of WAC, in fact the basis for a broader writing in the disciplines movement had been established in the 1960s. Russell (1991) identifies some key influences, the first of which was the development of the professional teacher of writing and the establishment of writing as a part of the curriculum quite separate from the teacher of literature. Writing had become increasingly established in the English curriculum from the beginning of the century, largely in response to movements to broaden access to higher education. By the late 1960s theorists were developing ideas relating to the association between language and learning. James Britton, for example, was already publishing in this area, influenced by the European theorists Vygotsky and Piaget and the American theorists Dewey and Bruner.

Britton was a key theorist in the WAC movement, both in America and in Britain. His influence was established in 1966 at the Dartmouth Seminar, a combined meeting of the American and English teachers' associations (the NCTE and the NATE), and expressed itself more fully in the mid-seventies when both Britain and North America were affected by literacy crises. At the same time as the *Newsweek* article appeared in the United States, England was experiencing its own crisis of literacy. The Bullock report, which was commissioned in 1972 by the government to assess the issue, was largely influenced by Britton's contribution to the commission (Spear, 1991). Britton was also engaged in the Schools Council research project on writing in schools, and in 1975 the book *The development of writing abilities (11-18),* co-authored by Britton, further influenced the writing across the curriculum movement in the UK. And while Britton is largely credited with theories of learning which centralised language within the learning process, a further critical influence (Russell, 1991) was his use of qualitative methodologies which brought together the traditions of humanities and social science in such a way as to influence the further development of writing practices and investigations for the next two decades (see Morgan, 1997).

Britton's focus was primary and secondary education, and it was in these areas that WAC had the greatest impact in the UK, but in the United States his ideas

spread to higher education and were further developed and applied by writing professionals in tertiary fields. Janet Emig, a significant writing theorist, in 1977 published a key article, "Writing as a mode of learning". Here she wove together the theoretical work of the European, British and American traditions, and her ideas were taken up in a 1977 seminar at Rutgers for teachers in higher education. This seminar exposed these professional teachers of writing to ideas that linked learning and language, and the group that attended it became key leaders and writers of what was to become the WAC movement in higher education in the United States.

Another key influence (Russell, in Bazerman and Russell, 1994, describes it as the major influence) on the WAC movement in North America was the Bay Area Writing project of the mid 1970s, which later developed into the California and National Writing Projects. Run by staff from English departments, the programme operated from the University of California at Berkeley, with the aim of improving the writing of secondary school students. The approach taken to achieve this was a series of interdisciplinary workshops with secondary school teachers who were, in these workshops, exposed to a range of writing research and theory but in an environment that promoted discussion and exploration. The focus on writing as an aspect of learning and the collegial workshop environment were aspects of the project that would be transferred to the faculty-led workshops of the WAC movement.

About this time, the concept of the inter-faculty workshop was established at Carleton College (1975), Beaver College (1977) and then Michigan Tech University (1977), under the guidance of Harriet Sheridan, Elaine Maimon, Toby Fulwiler and Art Young. Focusing on writing as both scholarly activity and process, beyond the sole auspices of English departments (although often spearheaded by them), these workshops were to become a keystone of the WAC movement. Here writing was explored by teachers in all disciplines in a writing-rich environment that modelled as well as investigated the connection between language and learning. Outside funding was often used to support the workshops in these early days of the WAC movement (the Michigan Tech workshop initiative, for example, was maintained by a large grant from General Motors),

allowing WAC to develop beyond organisational constraints. At the same time, key professional bodies such as the Conference on College Composition and Communication (CCCC) and the National Council of Teachers of English (NCTE) held sessions on WAC, and journals on composition responded to the movement, with new journals emerging which focused on writing in the disciplines. Thus writing became acknowledged as a legitimate scholarly activity, moving beyond the service role to which it had previously been largely relegated.

Writing workshops for academic staff from across the disciplines have become a key component of the WAC movement (McLeod, 1992; Walvoord, 1992), but are only the starting place in many colleges which have adopted a WAC philosophy. Methods for integrating writing into the broader curriculum, for supporting students in their writing and for supporting staff have become essential in maintaining the momentum of a WAC programme.

4.2.2 WAC: Definitions

The writing across the curriculum movement is difficult to define since its form differs substantially across institutions (Spear, 1997, maintains that of 427 WAC programmes identified in a 1987 national survey there were almost as many forms of WAC). However, the key to its defining features lies not in the forms and structures that support it, but in its underlying philosophies. There are two distinct but interconnected theoretical threads: learning to write and writing to learn.

Writing to learn, which was probably the first strand to emerge within the WAC movement, stems from the work of James Britton and Janet Emig (1977) and has been promoted by many key exponents of writing in the disciplines, in particular Toby Fulwiler and Art Young (see, for example, Fulwiler and Young, 1982). The approach is also sometimes referred to as 'cognitive' and relates closely to Britton's 'expressive' category of writing. Central to the writing to learn philosophy is the notion that learning and language are intertwined, that knowledge has to be actively constructed by the learner, and that, as this

knowledge has to be constructed through language, writing to the self is an effective way of exploring and developing learning and knowledge. Writing programmes using writing to learn techniques focus largely on expressive writing, that is to say, writing for the self in an environment that is safe and non-critical. Genres such as student journals (see, for example, Fulwiler, 1987) are therefore critical to this philosophy, as are other non-graded assignments which allow students to explore and creatively develop their ideas, either in isolation or in groups, based either on their own experience or on their response to stimuli such as teaching or reading. Such writing encourages students to connect new material to their previous knowledge and therefore learning is deeper and more fully incorporated.[15]

Learning to write (also known as writing in the disciplines or WID), the second strand of WAC, which emerged from the work of people such as Bruffee (1984) and Maimon (1981), is about learning how to use language within a specific micro-community. It is also known as the 'rhetorical' approach and relates most closely to Britton's category of transactional writing. Knowledge and language are seen in such a context as socially constructed or agreed to, so the role of WAC from this perspective lies in teaching students how to write in a specific context to a specific audience by making them aware of, and teaching them how to use, the conventions of the specific discipline. In science this often involves providing writing exercises and assessments which are transactional, focused on audiences which are common to writers in science. This approach to WAC often includes group writing, again, often in a transactional context, to highlight the notion and conventions of writing as social processes. We talk of the 'enculturation' of students into the discipline, into not just the language base but also the conventions of knowledge and thinking as defined by the language community. Pemberton (1995) describes WID thus:

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[15]McLeod cautions, however, that if we suggest writing increases learning, we need to be clear about what we mean by learning. Learning in this context does not mean the memorising of facts, a skill which, she suggests, is more easily and effectively achieved by other means of assessment. Rather, learning in this context refers to deep understanding and the ability to engage the higher learning skills such as synthesising and critiquing.

> A WID program…though it may use some Writing-to-Learn activities as part of classroom process, has *professionalization* as its focus, a desire to teach students what it means to write, talk, and think as members of a particular discipline. The writing projects students undertake in these courses may be collaborative, but they are also, presumably, longer, more complex, more centred in the activities of a discipline than those in a [writing to learn] course (p.128).

McLeod (1992) states that the two ways in which WID most often manifests itself in the curriculum are, firstly, the freshman writing course that highlights the conventions of academic writing, and, secondly, the writing-in-the-major or writing intensive course, which teaches the styles and genres of a specific discipline or grouping of scholars. Such a course may be taught not by the English department but by faculty from within the discipline.

The main ideas behind the WAC movement have been summarised thus:

> that writing and thinking are closely allied, that learning to write well involves learning particular discourse conventions, and that, therefore, writing belongs in the entire curriculum, not just in a course offered by the English department. …WAC assumes that students learn better in an active rather than passive (lecture) mode, that learning is not only solitary but also a collaborative social phenomenon, that writing improves when critiqued by peers and then rewritten (McLeod, 1992, pp.5-6).

In a country like the United States, where assessment at undergraduate level was focused predominantly on testing, this was a radical transformation indeed. But what did such a change mean in practical terms? What structures and approaches are being used in the teaching of writing across the curriculum?

4.3 Writing in the disciplines: Course structures and approaches

The initial focus of the writing projects in this study was WID or 'learning to write', since our first research question was "how can we effectively teach writing in the disciplines?" So it was from the WID literature that we first formulated the model for projects one and two. As we shall see in chapters seven and eight, we began to incorporate 'writing to learn' strategies into projects two and three after the first year of the programme, but in this section we consider only the models of WID since they were the basis of our work.

One of the most common 'learning to write' structures is the writing course, which may take a number of forms. The following section looks at the most common forms of WID courses (since WID courses were most pertinent to our aims), using the models defined by Dawson (1996), as applied to the United States context: the writing course taught through the English department, the integrated model and the semi-integrated or collaborative model. As well as writing courses, a number of alternative structures emerged out of the WAC philosophy or were in some way adapted to work with WAC strategies. These are not discussed, as they could not be applied to the projects in hand.

4.3.1 Science writing taught within an English department

While freshman composition as it was originally conceived made little if any concession to the differing writing skills required within different disciplines, it now takes more varied forms, some of which do address the issues of different disciplines or different literacies. In these situations, writing is still taught by composition specialists within the English department, but with a genuine effort to tailor the programme to specific groups of students or at least to help students become aware of the different genres of academic writing and the conventions associated with those genres (Linton et al., 1994).

There are two main forms of this model. The first is the 'service English model' (Dawson, 1996) where a cohort of, for example, chemistry majors is required to take a writing course designed for them by a department of English or Rhetoric; this type of writing course exists beyond North America (Dawson discusses the model as it relates to Australian universities) but is only just beginning to emerge in New Zealand.

There are clear advantages of such an approach. Unlike the generic courses discussed previously, real attempts may be made to understand the structures and genres of scientific or business writing. Such courses might include, for example, material on report writing or writing for a client. Consequently, students may be taught 'generic' skills within a context that supports and teaches the structures and genres they will need to employ outside the course. At the same time, all the

advantages, structural and pedagogical, listed for generic courses also apply to this type of course. Kinneavy (1983) identifies two further advantages, the first that the institution does not have to train all its teachers to become teachers of writing: rather, the task could be left to the specialist writing teacher, which "gives dignity to the career and the concept of the writing teacher and the importance of teaching writing" (Kinneavy, 1983, p.70). Secondly, the audience of any writing course of this nature must be the generalist, since the writer, in order to be understood by someone working outside the discipline, will need to transform their knowledge and understanding into language which can be understood by this relatively uninformed audience. This, in turn, will have the benefits of working against the fragmentation of the university community and thus reuniting the disciplines within a common language base.

Support for such courses is widespread. Chapman (1997), for example, argues strongly that only a department of English or rhetoric really has the staff skilled to identify, discuss and teach rhetorical conventions. Smith (1988), writing earlier, went even further while arguing that the teaching of writing should be housed within English. She claimed that the department not only has the highest level of expertise, but that it also *cares* more about composition and the teaching of writing, compared to teachers within the disciplines who "however well-intentioned, may see composition theory and pedagogy as even more peripheral to their professional interests than do the English department's most 'hermetic' members" (p.392).

Peterson (1992) takes a more pragmatic approach: since, she argues, freshman composition is a reality in many institutions and, further, is the only *required* writing course, often defining for students "what 'writing' is" (p.58), then, if the English department creates a writing course which focuses on academic and rhetorical structures in the disciplines, the department has a political opportunity in a way that no other unit does.

Many individual teachers have published descriptions of courses they have run according to this model, descriptions which illustrate both the authors' sensitivities to the needs of students in particular disciplines and also the skills

which a trained and experienced writing teacher can bring to the task of teaching writing in the disciplines. An example is Morgan's (1997) paper on teaching writing to technology students. She deals directly with the differences between the sciences and humanities, in her approach to teaching writing to technology students: "Reaching out to choose examples from the students' areas of expertise shows respect for their values and invites their interest" (p.133).

The focus of her paper is dealing with student resistance to not only being taught writing, but being taught writing by staff from humanities:

> Students often enter my classroom at the beginning of the semester determined to resist what they assume will be my attempts to transform them from hard-edged, quantitative, evidence-driven technical people to soft, culturally elite, emotion driven artists. Perhaps, it would be more accurate to say that they fear I might succeed at effecting that transformation (pp.134-5).

Apart from student resistance, however, there are other disadvantages to such an approach to teaching writing. The most obvious of these is that the teachers of such a course, however carefully they have investigated and constructed the content of their course (as someone like Morgan illustrates), are teaching a style (or styles) and genres that are outside their own experience. Dawson (1996) discusses this as "discursive conflict":

> When [the teacher] teaches literature and media studies, he [sic] perceives himself not only as instructing his students but also sharing with them his own insights and enthusiasms. When he teaches the communication skills unit, on the other hand, he perceives himself as training his students in the most basic utilitarian aspects of his discipline, which they will then apply to their own discipline, a highly technical discipline about which he knows nothing. From the...students' point of view, in studying communication skills with someone sent to them from the School of English, they feel that for two hours a week they are being trained in a discipline outside and discursively dissimilar to [their own]. ...They experience their communication skills classes as going back to what they should have learned (but often did not) in primary and secondary school (Dawson, p.174).

She goes on to discuss the ways in which science and humanities are constructed as dichotomies and how the technical or science students and the English teacher are constructed, through their education, as subjects of different micro-communities, each of which employ particular forms of academic or professional English. Because of this, she argues, there will always be conflict or disjunction

between the experiences and expectations of teacher and student in such a course.

This perspective is supported by Linton et al. (1994) who, after providing a brief summary of some of the main discursive differences between writing in disciplines such as the empirical sciences and writing in humanities, come to the following consideration:

> [this analysis] forces us to question whether English faculty are qualified to teach the language of academic writing in other disciplines. Composition instructors typically have little or no experience writing outside their own field. ...Many English faculty give students and colleagues the impression that they regard writing in other disciplines as pedestrian at best, because features they associate with fine writing (vivid metaphors, perhaps, or active verbs) are missing. On the other hand unfamiliar rhetorical moves may not be valued or even recognised. People who have never written lab reports or case studies cannot appreciate the way fully enculturated writers communicate with one another...let alone coach students to attempt such writing (p.75).

This raises another issue: when we speak of the 'general audience' in this context we may mean not any audience but rather the audience which has been constructed by the language of humanities (Ronald, 1988). In other words we are prioritising one variety of academic or professional language over another (Blair, 1988), requiring the scientific writer to conform to the requirements of the humanities major without acknowledging the language of humanities as being, in itself, a specialist language. Kinneavy acknowledges the difficulties posed by this act of translation:

> The rhetorical effects of such a task are massive. The writer must eschew the usual genres of the career specialist, translate technical vocabulary into language the generalist can understand, and sacrifice subtlety in argumentation and methodology. All these constraints are distinct losses. And, if one argues that specific disciplines really do have their own logics, then the unique logic of the discipline is adjusted to the general logic of the educated reader – assuming there is such a thing (1983, p.70).

A key question is the last one: is there such a thing as the 'educated reader'? Such a notion harks back to a nineteenth century tradition of the man of letters, and this is a tradition that is still a part of the humanities discipline. The losses identified here, therefore, are losses made for the sake of the prioritised language,

the language and logic of humanities disciplines, particularly the discipline of English (Ronald, 1988; Linton et al., 1993). And the losses are very much those of writers who may be struggling to handle and think within their own discipline. For these reasons these authors suggest that a course of this nature may hinder a student's learning of writing in the sciences.

The second form of this model is proposed by Ronald (1988), Peterson (1992) and Linton et al. (1993). This form is closer to the generic model in that classes are composed of mixed discipline students and taught by staff of the English department. However, the focus of the course changes from generic skills to looking at the way conventions of academic writing (associated with structure, acknowledgement, sentence style and word choice, for example) are handled differently according to disciplinary community.

Linton and her associates suggest (following Carter, 1990) that composition courses tend to teach local knowledge (i.e. writing for the humanities) as if it were general knowledge. Consequently, such courses have come under fire from those who have analysed texts as discipline-specific (Bazerman, 1988 and MacDonald, 1992, for example) and those who have located academic language as being embedded in the ontology of a particular discipline and therefore difficult, if not impossible, to teach separately from teaching content (Faigley and Hansen, 1985; Russell, 1993, for example). They suggest, nevertheless, that English departments are uniquely placed and equipped to teach a course which directly addresses and teaches contrasting rhetorical skills, making students aware, not of key rules of rhetoric, but of conventions of writing as they are handled differently in different contexts. They argue that this will assist students not only when they encounter different styles within the university, but also in their professional life as they move into new jobs or careers which require different rhetorical skills. If students are taught key conventions and experience the ways in which these conventions can change according to context, then they are being given a skill that will be of use in any context. This will also, Linton et al. suggest, make students more open to writing instruction by lecturers in, for example, science, and enable them to ask pertinent questions of staff to further extend and improve their ability to employ discipline-specific language skills.

Such an approach has undoubted strengths; in particular, it addresses a key flaw of generic courses, the issue of transferability. Any use of this approach may, however, be limited by the extent to which staff of an English department may be willing or able to both relinquish the simpler 'generic' course which allows them authority over the components of 'good writing' and undertake such complex training of students in rhetorical analysis. This limitation may be especially pertinent in places such as New Zealand where the number of staff within English department who have a research interest in writing is relatively small. As Ronald (1988) puts it:

> So, teaching students to analyse the rhetoric of other disciplines has to mean more than saying in effect to them "Come on up here with us and notice the ugly stuff that business, social science, and legal people write". In other words, if teachers really want to help students learn about writing across the curriculum, they will have to broaden their definitions of texts and contexts (p.146).

The real problem, as Ronald sees it, is that writing teachers are outsiders, outside the discipline the students are wishing to enter, and because of this they cannot have an intimate understanding of the structures of the rhetorical requirements or knowledge base of that discipline: "Writing teachers...are outsiders when it comes to analysing the knowledge that a community of scientists or sociologists share, knowledge which shapes their language and their written conventions" (p.146).

The question Ronald implicitly poses is whether this outsider position can still have its advantages. She argues both perspectives. On the one hand, writers from the disciplines would have greater knowledge of the rhetorical moves required within the specific discipline from an insider perspective and therefore may be more suited to this specialist teaching. On the other hand, she also suggests that teachers of rhetoric have a unique advantage of being aware of rhetorical elements of a text and the training to analyse them. It may be possible to surmise that writing teachers, as outsiders, may have the ability to teach this approach to writing, but that ability will depend on how they perceive their outsider's position. If it is seen as superior to the writers in the discipline, if they take a colonising position, then their contribution will be limited. Instead, if they can stand outside the text and explore the relationships between language and

knowledge with the students, then they do have skills to share that will assist those students standing on the edge of a discipline-specific community.

It may be possible to surmise that such a course (i.e., one that focuses broadly on comparing rhetorical features of a variety of texts) will have most value where it is a step in teaching the writing process, where staff from within the disciplines take up these skills and this awareness and build on a programme for teaching discipline-specific writing within a learning context. And this may be a problem in a context where writing itself is not an established part of a curriculum.

Peterson (1992), while arguing for such a course (i.e. one that analyses differing disciplines and the rhetorical conventions required of those disciplines from a non-colonising position), states that in some cases such an approach may not be possible, that context may be a critical factor. The first critical context factor, according to Peterson, is the way in which English departments define themselves. If they define themselves as focused narrowly on 'literature', then they may be reluctant to consider a course based on the rhetorical analysis of 'non-literary' texts. Another related issue not explored by Peterson is the question of how English departments view freshman composition politically. If they consider it an opportunity to proselytise or to introduce all students to the wonders of English literature, then they are again likely to be reluctant to relinquish such opportunities.

A second contextual problem, as identified by Peterson, relates to who teaches such a course. If the teachers are likely to be graduate students who are focused on the analysis of literary texts, then they are unlikely to have the skills or aptitude to teach the rhetorical analysis of non-literary texts.

Further difficulties identified by Peterson are identifying and choosing appropriate texts and questions about student competence: clearly if students arrive at a tertiary institution without basic skills or with no understanding whatsoever of the requirements of academic writing or style, then the type of course described above may be simply asking too much of them. In this situation

the better option would be to start them with an introduction to academic writing and offer this course in the second semester or year.

The question of whether the English department (or its equivalent) should be teaching writing in the disciplines is clearly a controversial matter. Proponents argue that the English department alone has the skills, the interest and the concern to teach writing in the disciplines (Smith, 1988; Chapman, 1997) and that a carefully designed course which maximises those skills may also address the needs of students in the disciplines (Peterson, 1992; Linton, et al., 1994), whether it be a course which directly teaches the conventions of science writing to science students (for example) or more generally teaches students to analyse the rhetorical features of any text. Others argue (Waldo, 1993) that English departments, while making what appear to be the right gestures, will inevitably take a patronising and colonising position which privileges their particular discipline, including the rhetorical requirements of that discipline, and maintains control over a writing programme. Critiquing Smith (1988), Waldo argues:

> I realise that Smith says repeatedly, "our colleagues have a lot to show us, too." English departments, she tells us, can resist ownership of writing, can avoid colonisation of other departments, can initiate and sustain dialogue; but her argument shows us something different – an agenda that places English in control. More exactly, her position implies an imposed linguistic control by making the English department's relationship to language a privileged one. ..."There is no way to decide the primacy of a particular context because no discipline is better than any other". Smith's proposal suggests, even openly states, a preferable context: English (p.21).

Certainly, the way in which English defines and perceives itself or the role it sees for itself would seem to be critical to the role that an English department can take in a WAC programme, and will be influential, to say the least, on the approach it may take to teaching writing in the disciplines, and, in particular, to teaching writing to science students.

One other factor appears to be critical in the role an English department can take in teaching writing in the disciplines. Even those most vociferous in the argument that the English department should be teaching WID courses, argue strongly for the role of consultation, even collaboration, in some form, with those in the disciplines. This theme of consultation and collaboration is discussed fully

in a later section of this chapter. But before we move onto that theme, we need to consider the other, strongly argued, position on who should teach writing in the disciplines: the integrated model.

4.3.2 The Integrated or De-centralised model

Models for integrating writing into the disciplines have taken many forms in the last century but have become more established in the last 25 years, both in the United States and elsewhere (Russell, 1991). Central to the integrated or decentralised model is the idea of writing being taught not from the English department but from staff in each discipline, and writing not necessarily being confined to a single paper or course but integrated and actively taught within a range of courses that require writing. Such an approach sees writing and enculturation into a discipline as integrally related:

> [Because writing is] a matter of learning to participate in some historically situated human activity, it cannot be learned apart from the problems, the habits, the activities – the subject matter – of some group that found the need to write in that way to solve a problem or carry on its activities (Russell, 1993, p.194).

If we accept the integrated model of writing as integrally related to both learning and enculturation within differing discipline communities, then writing needs to be taught within the culture of each discipline by those who have mastery of their own varieties of professional or academic language. Writing is thus placed outside the English department, not as a single 'service course' but as an ongoing process which brings students through transitional genres (also described as pedagogical genres; see Berkenkotter and Huckin, 1993) to disciplinary language models. Writing thus becomes, as Dawson describes, "not an optional extra or remedial exercise but...one of many sets of skills and knowledge that a graduate in their field requires. This is the crux of the programme – and, potentially, the most problematic feature" (Dawson, 1996, p.175).

The most common form that this philosophy takes in United States universities is the writing intensive course. Some universities specify the number of WI courses required of each student and the amount of writing (usually specified as number of words) required for a course to be designated 'writing intensive'. Staff within

the disciplines are often supported through the process of designing and teaching writing intensive courses through faculty workshops, the WAC director and the institution's writing centre. Classes are often very small (20-30 students) and teacher-intensive.

Other institutions have designed their own approach. Holyoak's 'Writing throughout the biology curriculum' paper (1998), for example, looks at the way in which writing was integrated into every aspect of the biology curriculum by the biology staff themselves, without consultation with composition faculty. He sees the role of the English department and of disciplinary specialists in teaching writing as quite separate:

> Our plan builds on writing instruction provided by our English Department, since it is our belief that primary instruction in English composition should remain firmly rooted in the English Department. It is, however, our responsibility as biology faculty to provide our students with opportunities to learn and practice the writing skills that will help them succeed. We therefore incorporated writing experiences in virtually all of our biology courses, from the first year through the senior year, rather than in a single writing-intensive biology course (p.186).

Holyoak's paper goes on to describe a comprehensive programme whereby the staff of the biology department identified their problem, established objectives, and then integrated the teaching of writing into their entire curriculum.

There are problems, however, with such decentralised programmes. The first may be the lack of confidence many lecturers in the disciplines feel relating to their ability to teach writing, and their lack of training. Pemberton (1995) describes this lack of confidence: "Many successful, publishing academic professionals do not think of themselves as writers" (p.120). Kinneavy (1983) focuses on lack of training, suggesting that the fact that someone can use a particular style of writing does not mean he or she can teach it. The idea that they can, he suggests, is to place the burden of teaching writing in the hands of amateurs: "We all know something about the English language since we use it every day, but that does not make us linguists or speech teachers. We all think, but that does not make us logicians" (Kinneavy, 1983, p.69). Chapman (1997) argues this point with equal vehemence:

> To place the courses dedicated to writing instruction into the hands of those who have, perhaps, given a day or so to thinking seriously about how to teach writing to others, is an act that sells short the expertise of those of us in this disciplinary community and which contributes to the tenuousness of a course [freshman composition] which is already moored on the edge of the academic mainland (p.10).

This raises a further issue: that the traditional teachers of writing, the composition staff, may feel that their position within the curriculum is weakened, that their expertise is devalued further, and that student perceptions that the 'real' teaching takes place in content courses (Hutchinson, 1993) are reinforced. This issue is returned to at the end of this section.

Dawson argues that the problem of discipline teachers' lack of training and confidence may be overcome with appropriate support and training and that an unexpected result may eventuate: the lecturers become more confident in their own ability to use and explicate their own discipline-specific language. Nevertheless, the issue of training and resourcing of such training should not be overlooked or underestimated by those planning to institute such an approach.

A further problem is that, administratively, such a programme is more complex to implement than a single paper located outside the subject area and requires more sustained effort by a greater number of people. Commitment and leadership may be difficult to locate and even funding or rewarding of such efforts may become complex. Waldo (1993) goes further, in analysing the decentralised approach to writing in the disciplines, suggesting that decentralisation may lead to "diffused focus and confused purpose" (p.19). Who, he asks, will be responsible for helping faculty teachers design assignments and assess grading techniques; who will initiate and sustain dialogue across the disciplines? If students are having difficulty with writing, will they go to the teachers in the disciplines or to the English department?

Another problem identified by Kinneavy is that teachers within the disciplines may not wish to be involved in such a programme since it is time consuming in terms of retraining and marking. He suggests that in institutions where rewards for staff are heavily weighted towards research and publications, staff would be

disadvantaged by engaging in such a task. This is a critical issue and one that is a very relevant concern in the competitive and changing context in which tertiary teachers find themselves today.

Kinneavy's further concern is that this integrated model, where writing is taught by discipline specialists, will fragment the university through separate languages, making students from different disciplines unable to communicate with each other or with society at large, thereby rendering scholarship increasingly specialised and inaccessible both within and beyond the academy. He concludes thus:

> It seems that what [this approach to teaching writing] gains in depth it sacrifices in breadth, what it gains in audience specificity it loses in intellectual community, what it gains in subtlety it loses in clarity, what it gains in demonstrative power it loses in information reach, what it gains in precision it loses in lucidity, what it gains in freedom it loses in accountability, and what it gains in scientific rigour it loses in rhetorical appeal (Kinneavy, 1983, p.71).

Placing writing in the hands of content teachers is, clearly, a contentious matter, as contentious as the question of whether English teachers can or should be teaching writing in the disciplines. A number of solutions to this dilemma have been proposed. Many writers, for example, have discussed the arguments for and against a writing in the disciplines programme being directed from the institution's Writing Centre (Wallace, 1987; Dinitz & Howe, 1989; Waldo, 1993; Pemberton, 1995; Dobson, 1998; Mullin, Reid, Enders & Baldridge, 1998) but this raises further debate: should the Writing Centre itself be housed in English or not? Should tutors within the Writing Centre come from English or from the disciplines? Essentially the same debate remains.

An appropriate response must meet the needs of students learning to write within their discipline and acknowledge the specialist knowledge of teachers in the disciplines as users of specialist English. It must also support the expertise of the English department, as experts in rhetorical analysis and as experienced teachers of writing, and not threaten their political position. Such an approach may be found in consultative, collaborative or inter-disciplinary strategies for teaching writing.

4.3.3 The collaborative model(s) of writing instruction

The concepts of 'dialogue' and 'consultation' are fundamental to a writing in the disciplines philosophy. As stated earlier, even those who argue most strongly for retaining the teaching of writing within the English department tend to just as strongly stress the need to consult and talk with staff from the disciplines (see, for example, Smith, 1988; Peterson, 1992). A fundamental question, though, in bringing together the English department and discipline teachers to consult or collaborate on the teaching of writing is the extent and nature of that relationship. The following discussion looks at a continuum of consultation and collaboration pertaining to the relationship between English and the disciplines in WAC programmes (Fig.4.1).

Two way
communication

Expertise shared
and acknowledged

Inter-disciplinary teaching

Collaborative
models

Multi-disciplinary teaching

Faculty dialogue mode

Broad consultation

Consultative
models

Specific consultation

Conversion model

Training model

One way
communication

Expertise between
participants unequal
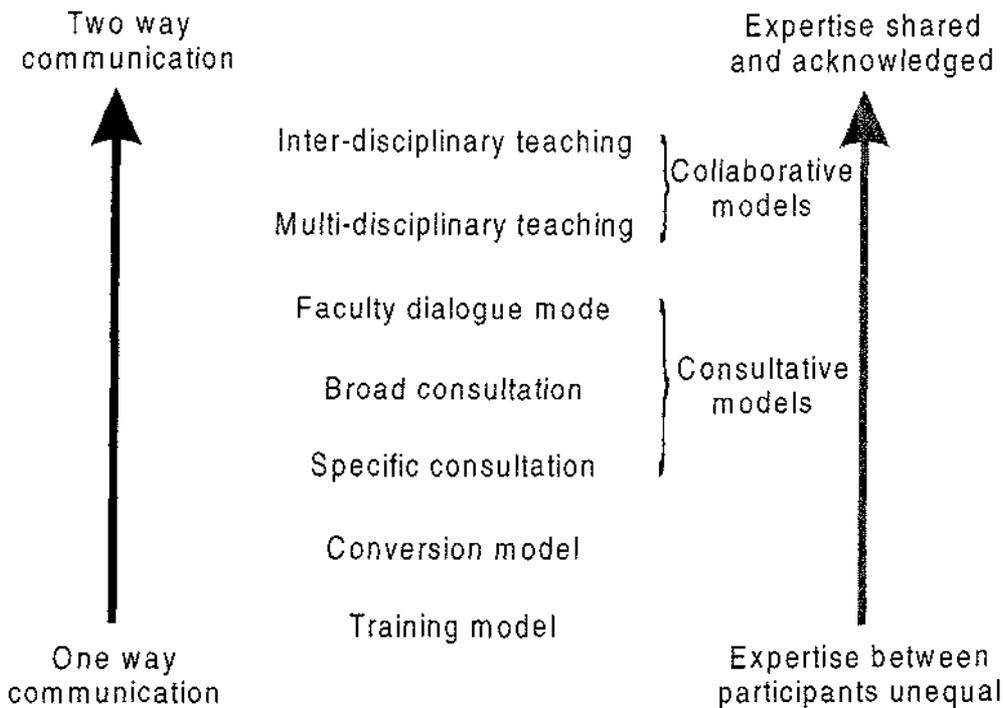
Fig. 4.1 Collaborative models of WAC

Walvoord (1992), looking at ways of developing WAC initiatives through faculty workshops, discusses two models which pertain to the relationship between English and the disciplines: the training model and the conversion model. The training model (for an example, see Ferguson, 1997) is based on the

assumption that discipline teachers are not teaching writing and need to be trained to do so by the experts (i.e., teachers of English). The conversion model assumes that discipline teachers are inadequate teachers who need to 'see the light' of WAC, be transformed as teachers and then move on on the right path. Both these models assume utmost expertise by the English department, total lack of expertise by disciplinary staff, and a single direction for communication and enlightenment. Because of this one-way communication, neither method could be called either consultation or collaboration in any meaningful sense. As McLeod says:

> Those who subscribe to this model [the conversion model] will discover that they are the ones who become enlightened; when leading my first faculty workshops, I found that my idea of what constituted "good" writing was challenged and then expanded through lively discussion with chemists, political scientists, zoologists, historians, and engineers. WAC directors are, or must become, listeners as well as talkers – learners as well as facilitators of learning (1992, p.10).

The next stage in the model is consultation. This can work both ways: either the discipline staff can consult with the English department about ways of integrating writing into the disciplines (and then go on to use the decentralised model of WAC) or the English department can consult with teaching staff about how they (English) can teach writing to students in the disciplines (and then go on to teach a WID course themselves). In the first option, the English department could be consulted by either an interdisciplinary WAC advisory board, a specific department, or an individual teacher. Communication is more complex here than in either the training or the conversion model but remains limited. The balance of power is also improved, but this improvement may be only minimal.

The extent of these limitations depends on the depth and nature of the consultation. In the example of the English department consulting with a discipline-specific teacher, the English teacher may design a WID course for science students, using a WAC reader, and simply ask a colleague in the sciences for a few assignments to look at to get a feel for what science students are being required to write. In this case, the balance of power is maintained, and the nature of the communication controlled, by the English teacher.

At the other end of the scale is Jamieson's (1996) model where "English department-based composition instructors become the students. ...Members of the academic disciplines teach us how to teach writing that will be appropriate to their fields. Then they help us to select readings and develop writing assignments that will help our students get a sense of what it means to read, think, and write in a particular discipline" (p.8). This approach most closely matches the model of faculty dialogue expounded in WAC texts: it remains consultative, in that one group is doing the teaching while the others are acting as consultants and supporters, but the discussion is two-sided and less controlled by one party. The very questions Jamieson poses to discipline staff are designed to undermine any perception of control by English department staff: "What is the one thing you wish we would stop teaching people about writing over there in English?" "What do you have to unteach before they can write for your discipline?" "What do you wish we *would* teach them?" (pp.8-9). These kinds of questions are pragmatic, couched in lay person's terms, and openly confront the idea that English wishes to enter into honest dialogue.[16]

An example of minimal consultation from the other perspective would be a staff member from the disciplines asking someone from English how to improve some aspect of his or her students' writing, such as their use of punctuation. A consultation model that moves into faculty dialogue would be an interdisciplinary WAC committee requesting that staff from the English department run a series of workshops on designing a WAC strategy for the university. In this example, the model is still consultative, because one party remains responsible for the agenda and for implementing decisions, but equal dialogue and sharing of ideas is possible.

So, in practical terms, what is the impact of consultation on the average science student? What types of courses are they likely to be attending? The simple answer is that they will still be attending variations on one or both of the discussed earlier: the WID course taught through the English department or a WI

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[16] Jamieson points out that these types of questions avoid the rhetoric of the English teacher, which, by contrast, *would* immediately assert the power imbalance. He gives as an example of an inappropriate question: "What would you say is the major role of writing in your discipline?"

course taught by science staff. The only difference may be in the quality of the course and the extent to which either course incorporates both composition theory and discipline-specific writing.

Nevertheless, it is possible to move beyond consultation into collaboration. Collaboration differs from consultation in that it involves a more shared approach to goal setting, action and responsibility. It may take many forms, but I cite a generic definition from Shaffer and Bryant (1983):

> [Collaboration involves] shared decision making in governance, planning, delivery, and evaluation of programs. It is a pluralistic form of education where people of dissimilar backgrounds work together with equal status. It may be seen as working with rather than on a person (p.3)

For similar reasons, collaboration must be distinguished from co-operation. Co-operation involves reaching agreements but not necessarily joint actions, joint goals or joint outcomes. It may involve individuals agreeing on something for the sake of *separate* goals and outcomes, whereas collaboration is a much closer association (Hord, 1981; Austin & Baldwin, 1991). Collaboration, then, is more than consultation or co-operation because it includes shared action and outcomes and goals.

Collaborative writing programs have taken many forms. Perhaps the most common form is that described by McCarthy and Walvoord as "focused pairs". An example is described by Dawson (1996), where a writing course is team taught by a writing or communication specialist seconded from the English department and a staff member from the department of, for example, food technology (Dawson, 1996). The model rests on the assumption that communication or writing and aspects of the discipline are complementary; as Dawson says "[the discipline] is the 'what' and communication is the 'how' (p.174). Thus, ideally, the problems arising from the writing course taught wholly by English and the problems associated with courses taught by discipline-specific staff are overcome and the strengths of both models combined.

Another model of collaboration is widely used in Australian universities (see, for example, Shih, 1986; Berk and Reid, 1996; Elliott, 1997; Hallett, 1997). In these examples, writing or communication workshops are run parallel to, or in conjunction with, the content lectures. Shih (1986), for example, defines five ways of working collaboratively with academic staff, each of which involves the writing or communication teacher being 'outside' the content classroom. Interestingly, this type of collaboration in Australian tertiary institutions seems to be used most commonly (but not exclusively) between writing specialists from Language and Learning units[17] and academic staff, rather than in collaborations between English departments and academic staff.

Such models are not without their difficulties, whether the collaborators are English department or language and learning staff. Dawson herself acknowledges, as do others (see Hallett, 1997), that undergraduate students may have insufficient mastery of the subject to understand the complementarity being suggested here: instead, she suggests, they are likely to choose between the two foci and prioritise the subject matter over communication and hence accord more expertise and relevance to the teacher from, say, food technology than the teacher from the English department or Language and Learning unit.

Furthermore, the role of the teacher seconded from English is likely to be perceived ambivalently by staff from the client department, which will prevent the teacher from having any long-term impact on the curriculum of the department. The writing course is unlikely to be sufficient to dramatically improve students' writing skills; follow-up in the general programme will be required. Yet the teacher will be unlikely to gain sufficient status to achieve this. Although they have been brought in as an expert, they will, suggests Dawson, be perceived by the department as being experts in a field that is remedial. Dawson is not alone in encountering an imbalance of power in such a collaborative association between a writing teacher or tutor and a discipline-specific teacher. Mullin et al. (1998) also experienced difficulties with the

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[17] The term is used generically to describe academic skills units; the terminology is not standardised across Australia.

discipline-specific teacher's expectations and assumptions initially dominating each person's role. Similarly, Watson's (1996) experience with team teaching showed that differences in rank between the writing teacher and the discipline (engineering) teacher were a problem: in this case, there were *actual* differences in rank, rather than just perceived or assumed differences, but this does not seem to be an unusual aspect of a collaboration between writing teachers and discipline teachers (Mullin et al., 1998). Furthermore, Watson experienced difficulties with agendas: she perceived her role as being to help the teacher redesign the course on a writing-intensive basis while the engineering teacher was merely aiming to supplement the course with a writing component. Because of role differentiation, the writing teacher was unable to have a major impact on the course.

Watson suggests that we may need to distinguish between multi-disciplinary and inter-disciplinary collaboration here. Citing James Davis (1995) she defines the difference between these types of collaboration. Multidisciplinary teaching suggests that disciplinary specialists would work side by side in "an additive way" (Davis, 1995), making minimal efforts to integrate their disciplines. In interdisciplinary teaching, by contrast, efforts are made to synthesise the disciplines, to bring methodologies, content and concepts together in a blended way which would lead to new pedagogies and possibly new disciplines (Hepner, 1996). Watson (1996) sees her first study as multi-disciplinary, with two disciplines working side by side rather than together. Looking more closely at Dawson's model and at Mullin et al.'s first steps, we can see that they too fit the multidisciplinary approach.

While writing teachers are unlikely to claim to have invented new disciplines in collaboration with colleagues from the disciplines, some programmes can clearly be shown to have been interdisciplinary in this strong sense, in that they aimed to blend their disciplines rather than simply working side by side. Some of McCarthy and Walvoord's 'focused pairs' examples take an interdisciplinary approach and Mullin et al., through careful monitoring of their actions, emerged as having carefully blended their disciplinary perspectives. Another example is Kuriloff's study using collaborative work.

Kuriloff (1992) argues that this collaborative (and, we might add, interdisciplinary) model of integrating writing into the disciplines may indeed produce the best of both worlds, with a writing instructor or consultant who is an expert in teaching writing skills and processes and a teacher from the disciplines who will be an expert in the conventions of his or her own discipline-specific language. She identifies several theoretical underpinnings for such an approach. Firstly, such an approach acknowledges the existence of a variety of discipline-specific communities within the academy, and the specific language requirements or rhetorics of those communities, and supports the notion that only those familiar with the conventions of that community can effectively initiate students wishing to enter that community; writing instructors cannot do this alone. Secondly, the approach acknowledges writing as an effective method of learning within that community. Thirdly, successful writing in a discipline requires modelling, i.e. students need to read models of the genres they are working towards.

In practical terms, our hypothetical science student, being taught through an inter-disciplinary collaborative approach, might find both writing teachers and content teachers in his or her classroom, working together towards the same outcomes. While teachers might undertake specific tasks, they would not be strictly role-limited (i.e., the writing teacher would not always be teaching writing and the science teacher teaching science). Dialogue and discussion would be a classroom reality.

The advantages of such a programme, according to Kuriloff, are the development of a programme which most effectively reaches the needs of students within specialist groups, the establishment of bonds between departments and the English department, and an ability to share in one another's discipline-specific communities, thus avoiding the increasing fragmentation feared by Kinneavy (as discussed above). Other writers confirm these advantages, stating that both staff and students benefit: Gardner and Sutherland (1997) show that staff will grow, professionally and personally, through opportunities to learn about other disciplines, to become reflective teachers, and to talk with other people about teaching. Austin and Baldwin (1991) concur, adding the value of increased

feedback on teaching, the opportunity to learn new ideas, and a reduction in the isolation of academics. Meanwhile, students benefit because they will begin to understand the connectedness of knowledge (Austin and Baldwin, 1991; Gardner and Sutherland, 1997), they are less likely to see a cultural and methodological split between science (for example) and writing, and they will be exposed to a variety of role models (Austin and Baldwin, 1991).

Kuriloff acknowledges that there may be difficulties in managing such a task but sees the major obstacles, apart from potential personal difficulties between the team members, as institutional. As she observes, universities are not structured in favour of cross-disciplinary endeavours or collaboration between teachers. Time is money and the extensive time required to build an effective team is not rewarded. Funding and release time may not be forthcoming. To avoid the problems of lack of recognition and rewards to teaching staff who undertake such endeavours, senior administrators need to be involved in endorsing and supporting such work. Even without this, however, Kuriloff argues that the rewards to both subject specialists and writing teachers in terms of learning and growing in professional expertise are substantial.

So what is required to make an interdisciplinary collaborative approach work? Gardner and Sutherland (1997) identify three factors: what they call "Talent, time and treasure" (p.30). In other words, you need skilled, experienced and open-minded teachers, whose personalities, teaching philosophy and teaching styles mesh. You need extra time allocated for meetings and discussion, and this may mean some time release from other duties. And you need money to fund administrative support. Kuriloff supports their first idea, stressing that such a programme can only work effectively when collaborators truly respect one another's skills and perspectives and when each is prepared to learn from the other. She states also that goals for the programme need to be clearly established and articulated by the two parties, and that a process needs to be put in place to ensure that the collaboration stays on track and that goals and outcomes are continually under negotiation.

Recent research has picked up this need for a process to ensure effective collaboration. Siebert (1996) looks at what she calls "An emergent model for integrating WAC" which takes an institution through a process of integrating WAC into its teaching structures. Mullin et al. (1998), on a much smaller scale, describe the process of collaboration for their group, stating "that success or failure of collaboration has to do with the expectations we bring to collaborative situations, with how well we negotiate these expectations, and with whether we reach some kind of agreement or consensual action" (p.153). They also acknowledge, at the end of their paper, that process must be flexible and contingent:

> As much of the literature on collaboration…suggests, we need to continually negotiate as these collaborations proceed in order to reach agreed upon, even if shifting, goals (Mullin et al., 1998).

More is needed, though, than appropriate processes by those operationally involved in collaborative teaching: institutional support is also required. Fauske (1993) lists four requirements to be made of the institution.[18] First, the administration must legitimise collaboration by supporting it philosophically and financially, and by institutionalising operational factors (for example, by integrating WAC workshops into its programme for new teaching staff). Second, it must view collaboration as legitimate research. As Fauske points out, traditionally scholars have been required to publish in their own discipline areas: for collaborative work to take place, the administration must support and reward inter-disciplinary publication. Third, the administration needs to put in place structures that facilitate communication. Finally, collaboration needs to be institutionalised, or, as Siebert (1996) puts it, "logic suggests that the success of any program depends on its ability to become woven into the fabric of its home institution, to become a natural part of that institution and context" (p.7). This section, then, has looked at different models of consultation and collaboration, starting with the training and conversion models, in which any discussion is one-sided and power between the parties is unequal, and moving

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[18] One other requirement relates to how collaborative groups should work together, i.e., that groups should establish shared goals.

through consultation methods in which the level of communication and power is more balanced. It then looked at models of collaboration, moving from multi-disciplinary to interdisciplinary, and considered what is required to make an interdisciplinary collaboration between writing and disciplinary teachers work effectively.

4.4 Conclusions

This chapter has outlined the ways in which writing has been taught to students in the disciplines, primarily in the United States. It has discussed the generic model and three models which have emerged out of the WAC movement: the writing course taught by an English department, the decentralised model of teaching writing, and finally the varying consultative and collaborative models.

Exploration of this broader context of our research was critical to the development of our projects in that it gave us a series of models from which to design the writing programmes. It also alerted us to a number of factors that needed to be considered as we planned our projects. In particular, we noted that:

- there was a vast body of research which suggested that subject specialists may be the best people to teach writing in the disciplines, given certain conditions and support.
- staff in the disciplines who take on this task may need 'empowering' in some way as teachers of writing.
- a writing consultant supporting the discipline-specific staff needs to put aside his or her own experiences and expectations about language and somehow assimilate the genres and styles of the discipline.
- the institution in which the writing projects take place needs to support and reinforce innovative teaching and collaboration.
- a writing programme, while it may generalise characteristics and features from other writing programmes, must be designed for the specific institutional context.

- superimposing writing into existing courses is likely to have only limited success.
- truly collaborative, interdisciplinary teams may be the most effective way of integrating writing into the curriculum.

These features became integral to the design and development of our projects. However, while we had now identified key features of our proposed projects, we were still left with a question: how could we achieve all this? What method could we use to empower applied science teachers as teachers of writing, ensure that the writing consultant maintained an appropriate supporting role, and develop teams that were collaborative and interdisciplinary? The next chapter considers the methodology and process that we used to achieve our aims: action research.

Section Two: Methodological Issues

Chapter 5: Action research: Change and collaboration

> We all have too much to do to waste our time reinventing wheels. But we cannot forget that all wheels – even those invented by others – must be carefully road tested on home terrain (Maimon, 1992, p.xi).

This chapter marks the transition between discussing the various contexts in which this research took place and the projects themselves. Taking up the theme of collaboration introduced in chapter four, it considers the specific method of collaboration used in these projects, namely, action research. As a preliminary step, it discusses the history and development of action research, focusing on four key themes – change or improvement, collaboration, context, and the combination of action and research – before moving on to look at the action research process.

Of its nature, action research calls for awareness of the perceptions and experiences of all participants and a careful recording of all relevant events and transactions. A methodical approach to collecting information is, therefore, essential. Also essential is a sensitivity to ethical issues that might arise when project participants speak frankly about themselves and one another. Such frankness has the potential to affect both the on-going group dynamic and the nature of the record. Accordingly, the second part of the chapter looks at the data collection methods and the ethical issues that were relevant to this study.

Collaboration was a dominant theme in our planning as we initiated our research. As was noted in chapter four, various general problems of collaboration exist when a writing paper is taught by a combination of teachers from the disciplines and teachers (or a teacher) from English.[19] These may be summarised as follows:

- students are unlikely to understand the relationship between communication and the discipline being taught.

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[19] Or from communication or from a learning and language unit.

- ambivalent attitudes to the writing teacher from both students and staff affiliated to the discipline mean that the writing teacher is unlikely to be able to develop the follow up required to reinforce the writing course.
- universities are not structured to support cross-disciplinary programmes, meaning that rewards and resources are unlikely to be forthcoming.

To these general problems we might add the particular problems of collaboration inherent in our teams, which had been brought together not entirely by design but largely by the serendipity which often characterises the operations of large educational institutions. The brief of the team for project one was to bring about immediate and extensive curriculum change by introducing a writing paper into the curriculum. Moreover, as indicated in chapter two, the team that came together for project one was not composed of experts but possessed a mixture of competencies. Furthermore, we were under time pressure to get the projects running. Having made the decision to design our own writing paper and a writing across the curriculum programme, we were under an obligation to design the elements of the programme and have the action underway in less than six months, by February, the beginning of the academic year. Without collaboration and solidarity these objectives would have been impossible to meet.

A number of factors, then, led to our choice of action research as a methodology. As well as the practical constraints and problems described above, we were aware that successful collaboration requires a structure and a process (Kuriloff, 1992), both essential elements if our teams were to overcome the general difficulties of collaboration and the difficulties specific to their context. Furthermore, our groups required rigour in the process of implementing curriculum change, a rigour which would allow us to evaluate our progress. And we needed to use a methodology which would be change focused, group operated, and empowering, in the sense of not relying on the presence of a writing consultant in the long run. A further practical constraint was that any process selected had to work within a semester cycle.

Action research was the method (both structure and process) we decided upon to meld our team, build on our strengths and both implement and evaluate our teaching programme. Five features of action research were of particular importance:

- the theme of *change or development*
- the theme of *collaboration*
- the very rational, systematic *process*
- the focus on a real as opposed to controlled *context*
- the dual foci of *action and research*

The following section begins with an outline of various definitions of action research, focusing in particular on the critical keystone concepts that were relevant to this study, and is followed by a description of the process of action research.

5.1. The emergence of action research

5.1.1 Origins

Action research in education has most commonly been seen as emerging from the social research studies of Kurt Lewin in the 1940s (Elliott, 1988; Kemmis and McTaggart, 1990; Adelman, 1993; Zuber-Skerritt, 1993; Selener, 1997). Nevertheless, the application of action research to education may go back much further. Some researchers (Hodgkinson, 1957; Kemmis, 1982) point to possible origins in Dewey's approach (1929) to teacher involvement in educational research or in even earlier education movements such as the Science in Education movement of the last decades of the nineteenth century (McKernan, 1988). While Lewin did not originally apply his methodology to education specifically, he introduced a process consisting of a spiral of steps to address social issues which was subsequently transferred to educational approaches to action research (McNiff, 1988).

In the 1950s, a few researchers were developing action research as an educational methodology, primarily in the US (Corey, 1953, 1954; Taba, Noel and Marsh, 1955; Taba and Noel, 1957; Shumsky, 1956, 1958). But generally, action research during this period was a methodology in disrepute (Wiles, 1953; Corman, 1957; Carr and Kemmis, 1986; McNiff, 1988). It was not until Lawrence Stenhouse's work in Britain on curriculum development and the teacher-as-researcher movement in the early 1970s (see, for example, Stenhouse, 1975) that a revival of interest in action research as an educational research methodology occurred. Stenhouse's ideas were taken up in Britain by Whitehead (1989), Elliott (1978, 1988, and 1991) and McNiff (1988), all of whom further developed the teacher-as-researcher concept. Evaluations at this time, however, were largely interpretative, with an external researcher directing the observations and reflection processes. Only in the 1980s were the interpretations of the teachers themselves beginning to emerge as being of critical importance (McNiff, 1988).

In recent years there has been a revival of interest in, and usage of, action research as a methodology in a variety of social, managerial and educational contexts (see in particular the work of Whitehead, 1986 and Ebbutt, 1985 in Britain and Carr, 1989; Kemmis and McTaggart, 1990; and Zuber-Skerritt, 1992, 1993 in Australia). While there is debate about its theoretical basis,[20] and about aspects of its form,[21] the standard elements of its broader definition, as applied in an educational context, seem largely a matter of agreement, as discussed below.

5.1.2 Definitions

Selener (1997) identifies two elements as essential to all definitions of action research in education. First, action research is a systematic and rigorous inquiry

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[20] See Carr and Kemmis, 1986; Kemmis and McTaggart, 1990; or Cliff Bunning, 1994 for a discussion of a division of action research into three types: technical, practical or emancipatory, or Kelly, 1985, for a division of the methodology into three categories: experimental social administration, teacher-researcher or simultaneous-integrated. Poskitt (1995) takes a different approach in distinguishing between different styles of action research as they have emerged in the UK, Australia and the USA.

[21] For example, about the role of the researcher. See discussions by Elliott, 1988; Van Manen, 1990; Poskitt, 1995.

which is based on scientific procedures and, second, this process of scientific enquiry is operated by practitioners/participants who have ownership, to varying degrees, of both the process and the outcomes or results. Perhaps the simplest definition is an early formulation by Corey:

> [Action research] is the process by which practitioners attempt to study their problems scientifically in order to guide, correct, and evaluate their decisions and actions (1953, p.6).

Definitions are, of course, refined over time, and in the last 25 years change or improvement and collaboration have become common themes within definitions of action research in an educational context. Kemmis and McTaggart's (1988) definition of action research emphasises both of these factors:

> Action research is a form of collective self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social and educational practices, as well as their understanding of these practices and the situations in which these practices are carried out. …The approach is only action research when it is collaborative, though it is important to realise that the action research of the group is achieved through the critically examined action of individual group members (pp.5-6).

Webb (1995), commenting on this definition, adds:

> The essential ingredients of action research according to this view are: collective or collaborative (group based activity); …improvement and empowerment (critical consciousness) through group based critique (p.753).

The following sections consider the key themes contained within these broad definitions.

5.1.3 The theme of change

While different writers focus on different aspects of the process, constructive and considered change or improvement is a consistent theme. For example, Winter (1989) sees two key principles as being, first, the process of reflection (that is, the development of understanding) and, second, change in practice. For

McPherson (1994), change in practice is the underlying principle upon which all the other tenets of action research are based:

> Its fundamental aim is to improve practice, and it seeks to achieve this by actively involving practitioners in making decisions about how to bring about these improvements. In this sense it is not research that is done on other people – it involves people working together, analysing and changing their own situations and practices (p.22).

Carr and Kemmis (1986) include also a development or improvement in the context in which the research takes place.

McNiff (1988), in describing the fundamentals of action research, identifies involvement as the social basis and improvement as the educational basis of action research and sees at the core the notion of change: "its operations demand change" (p.3). Whether the focus is on improving simple practice, or improving the understanding of participants, or creating a disturbance in the curriculum or institutional context in which the action research takes place, change remains a recurring and essential theme.

5.1.4 The theme of collaboration and ownership

Another key theme is the idea of collective change amongst a group of people who are already engaged in a particular practice.[22] They begin with a question, a specific version of the general question "How can we improve what we are already doing?" In a sense, this is a question constantly in the minds of professional people, but action research offers a method by which to pursue this question in a more methodical, rigorous way than the common, casual query would normally generate (Winter, 1989; McCucheon and Jurg, 1990).

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[22] This may not be the case in some forms of action research. In technical action research, the group may be brought together for the purposes of the researcher, but this would not normally be the case. It is also possible that some forms of action research would include the co-option of an 'outsider' into a group that was already existing (see Bunning, 1994; Poskitt, 1995).

Related to this theme is the issue of ownership. Central to the concept of action research, as it has evolved in an educational setting in the last 25 years (following the 'teacher-as-researcher' work of Stenhouse, Elliot and others), is ownership by participants of the process of change, the results of the research and the implications emerging from reflection. While traditionally educational research has separated the practitioner from the researcher, with the practitioner as object and the researcher as detached subject, action research puts practitioners in the subject position, as instigators and owners of the research process and the results of that process. Clearly, then, as a corollary of ownership, action research must involve empowerment of teachers and practitioners.

5.1.5 The theme of context

A further theme of action research that was highly relevant to the programmes described in this study is the idea that it takes place in an immediate, practical context. While this idea is a commonplace, as Carr and Kemmis and many other writers (Rapoport, 1970; Hult and Lennung, 1980; Kelly, 1985) are quick to point out, it is not a commonplace of educational research in general. Educational research in its earlier, positivist forms, keen to establish itself as a reputable discipline, drew away from the particular in the interests of generalisable, measurable results.

In the following extract, Kelly (1985) describes three things: first, the implications of educational research which takes place outside the immediate context, second, a danger inherent in providing an 'ideal' context for research, and, third, the positive consequences of action research being embedded in a 'real' environment:

> Most educational research that is concerned with improving practice has adopted an experimental model. However, by controlling all variables except those under consideration, by pouring in money for curriculum materials, or demanding a certain allocation of time and facilities, the normal school situation is distorted and becomes artificial. Schools are constantly changing in unpredictable ways that destroy any neat experimental design; they have limited resources and constraints of staffing and building which vary. ...Action research does not attempt to control for these factors or minimize their effects. ...If innovations cannot survive in these conditions they are useless (p.74).

We knew in our study that if our innovations could not be implemented and take root in the real conditions of the university then they couldn't survive. We were concerned to use a model of action that was embedded in a real context and could still be analysed as research. Furthermore, we were interested in a model that would help us to analyse not only our actions and processes, but also the inter-relationship between our actions and the context in which they took place.

This leads us into a further aspect of the theme of context in action research: the importance of understanding context as part of the research process. The planning phase of action research includes reconnaissance, which involves analysing the context and the ways in which the context and the proposed plan of action may affect one another. In order to analyse these two factors, it is often useful to consider multiple contexts rather than a single, undifferentiated context. This allows the action research team to look at context through a variety of lenses. For example, in these projects we started by considering the most immediate context – Massey University, the Faculty of Agricultural and Horticultural Sciences, the new degree, how writing has been taught in the faculty, and the process leading up to the inclusion of communication in the curriculum. By examining this immediate context we could take into account practical issues such as resources, political issues such as the level of support and commitment from senior management, and pedagogical issues such as how previous attempts at teaching communication in the faculty might affect the project. Taking a longer lens, we then researched a broader context of how writing had been taught in other New Zealand universities, as detailed in chapter three.

A further context in which the projects took place is the research context. The action research process is contained within a dialectical interaction between relevant scientific knowledge or research and the practical and institutional contexts of the research. In this study, the research context is the body of knowledge on writing in the disciplines, as discussed in chapter four. The inter-relationship between contexts means that scientific knowledge can be brought to bear on the social and practical contexts, while change in the social and practical contexts, brought about by the action research process, should influence the body

of knowledge relating to the field of change (i.e., the research on writing in the disciplines). Which leads naturally to the final theme of relevance to this study: action and research.

5.1.6 The combined themes of action and research

While we were concerned to undertake our programme, a programme based on action, we also wanted to analyse that programme as research. In an institution which values and promotes research, undertaking an immense curriculum change without analysing it as research is a missed opportunity for contributing to knowledge, and, more pragmatically, for publishing and promotion. Action research was a method that allowed us to cater to a number of motivations amongst team members because it combined an experience of curriculum development with an opportunity for research.

Having considered the history, definitions, and characteristics of action research as they relate to our projects, we can now consider the process of action research and at how the elements are put into practice.

5.2 Process

Action research is not a linear, single process of change. It is generally characterised as a recurring spiral, with four 'moments' within each cycle: planning, action, observation and reflection. When one cycle is completed, reflection leads into replanning and so the cycle begins again. This cycle is generally schematised as shown in Figure 5.1.
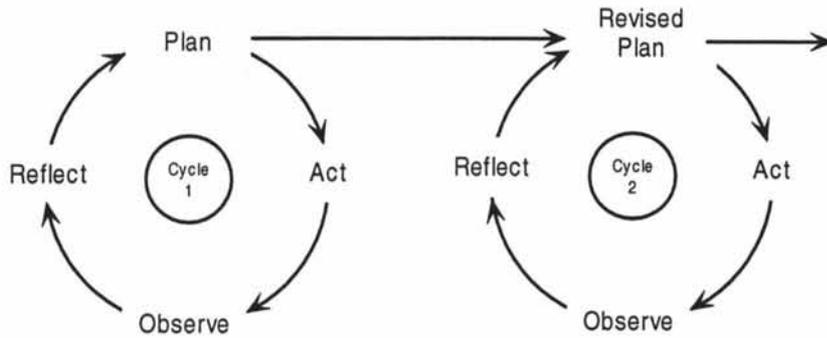
Fig 5.1 The action research cycle (after Zuber-Skerritt, 1993)

In practice, these moments are rarely discrete; neither do they necessarily appear rigidly in the order presented here (Selener, 1997): unexpected circumstances may require (constant) contingency planning in an unstable context; action and observation generally occur simultaneously; reflection may – indeed, should – be an almost continuous process. Because action research takes place in a 'real', dynamic context, rather than a controlled one, and seeks solutions to real problems, contingency is inevitable. Nevertheless, the cycle, as it is characterised here, provides a model of rigorous and systematic action and reflection on which to base informed change. The following paragraphs explain in more depth the four moments or stages of action research.

5.2.1 Planning

Action research begins with a question (Winter, 1989), or a problem (Selener, 1997) or a hunch or general idea (Elliot, 1991), relating to practice and a group of practitioners. This question or problem is generally practical rather than theoretical and instigates the entire action research process. Selener discusses detailed methods for problem analysis and the formation of hypotheses. The notion of forming a hypothesis, however, might be debated by other theorists such as Winter (1989), who stresses the openness of the action research design as a way of allowing for a wide range of possible outcomes.

Planning proper begins with a reconnaissance: where are we *now*? Winter (1989) describes a set of basic questions: What is happening now? Why? What change are we attempting to negotiate? With whom? Who else will be affected by the change? McNiff (1988), Kemmis and McTaggart (1988) and Selener (1997) offer more detailed descriptions of the process of the reconnaissance stage of planning, including the need to assess present activities and practices and gain an understanding of the social relationships, structures and organisation of the particular context.

Both Kemmis and McTaggart (1988) and Winter (1989) emphasise the importance of the group becoming aware of its own values and the theories informing its present practice, although their reasons differ. According to Kemmis and McTaggart, we must understand our values because they "act as signposts, showing us 'which way is up' in the process of improvement and naming our commitments. Our values name the things we proclaim ourselves willing to struggle towards" (1986, p.55). Winter (1989), on the other hand, like Carr and Kemmis (1986), sees the focus on present values and commitments as essential to move both the group as a whole and the individuals within it beyond the bounds of the familiar. Of particular concern are the elimination of external and internal constraints and the recognition of distorted understandings and forms of domination. Emotions, ambitions, memories and hidden values may also affect a person's abilities to interpret and evaluate the progress of the investigation, so researchers and participants need to be as aware of these potential 'saboteurs' as possible. Both perspectives are, clearly, simultaneously valid reasons for being aware of your own values and ideologies.

Once the present situation is analysed, the planning for action stage can begin. This involves working out goals and objectives that can be realised in the present context. Action may be a small or a large step, but, as Kemmis and McTaggart stress, it must be a realistic, strategic decision or series of decisions: "it is a practical decision about where to act to produce *the most powerful effect compatible with sustaining the struggle for reform*" (1988, p.65). This step may include accommodating the effects of change on others by anticipating reactions and planning for ways to manage possible resistance. It may include building in

contingency plans for resistance from within the group and working out strategies for managing conflict which may arise in the group. Clearly not all contingencies can be anticipated or accommodated, but thorough planning may help the group to avoid some problems that may arise. Above all, the plan of action must be practical, realisable and robust – and, where appropriate, grounded in relevant theory.

5.2.2 Action and observation

The next steps in the action research cycle are action and observing and monitoring the action. Clearly, the planning process will have involved decisions about observation techniques. Action research almost always involves triangulation, that is, the use of multiple observation techniques (Zuber-Skerritt, 1993; Bunning, 1994). These may include questionnaires, interviews, data collection, document collection, recordings on various media, and, almost always, journals by participants that allow for both description and a continuous reflection process. Triangulation, by allowing for recording of multiple perspectives, may partially transcend individual bias (Carr and Kemmis, 1986; Kemmis and McTaggart, 1990; Zuber-Skerritt, 1993; Bunning, 1994; Poskitt, 1995); or, from another perspective, it may allow research to be recorded as a multiple process, transcending the fiction of the single, consensus perspective (Winter, 1989; Bunning, 1994).

Observation is never a passive part of the process. Because the observers are (generally) also the actors (i.e. the participants), observation inevitably involves continuous or regular analysis of the data, the effort to 'make sense' of what is happening. Observation is integrally tied to action and the actors.

5.2.3 Reflection

The final stage is reflection, a critical aspect of the action research approach. Linked back to the planning and action stages ("what has our action showed us in relation to our planned outcomes or research questions?"), reflection makes sense of our observations, leads to better understanding and hence stimulates further

change in action and practice. In reality, as noted above, this may not be a single stage at the end of the action but an almost continuous process throughout the action (McPherson, 1994). Continuous reflection, however, is not a substitute for a fuller reflection at the end of a cycle. At this stage the members of the group come together to look at their objectives and goals, to analyse their data, to consider possible serendipitous tangential results, and to formulate a plan for the following cycle. The success of this stage will depend on the success, appropriateness, and completeness of the observation methods used.

This description of action research has been largely generic. Chapters six, seven and eight explain how action research was used in the three projects that make up this study. But before we consider the projects in detail we need to look at two critical features which applied to all three projects: the data collection methods used and the ethical constraints and contexts of the research.

5.3 Data collection

As we have seen, triangulation of data collection methods is crucial to action research. Triangulation in the social sciences generally refers to applying a number of approaches to the same phenomenon but data triangulation means collecting data from a number of sources (McKernan, 1991). Aside from offering a means of verifying key findings (i.e., looking for intersections between various data forms or sources to increase the validity and reliability of a study), triangulation may also be a means of illuminating a wide range of differing perspectives, creating a rich and varied picture of simultaneous but differing perspectives of the same experience or phenomenon. Therefore, triangulation may mean not only intersections but also fragmentations and the highlighting of conflicting – or simply different – subjectivities. Both perspectives on triangulation contribute to the broad picture presented by action research.

For these reasons, data triangulation was used in all three projects described in this thesis. This required intensive consideration of methodology and data collection. Note that not all data collection methods were used in all projects; as

always, the context and the role and commitment of the participants influenced which methods were used. We were at all times bound by the possible. Different data methods were employed simultaneously by different participants. This section describes each method in general terms; more specific discussion of how the methods were employed in the actual projects is provided in each of the case studies.

5.3.1 Staff journals

Journals (or project diaries, learning logs or field notes) are a common form of data collection in qualitative studies and in action research in particular, providing pictures of the process and data individual and group (Elliott, 1991). Kemmis and McTaggart (1988, 1990) see journal keeping by all of the action research team as essential in terms of establishing in all group members a habit of reflection as well as observation. They identify four key areas that need to be attended to in keeping a journal:

- reflecting on language and style, in particular noting any changes in language usage by the group or others (for example, when working with new members of a team teaching writing, one might note when a team member spontaneously used a term they had not previously been familiar with, such as 'topic sentences,' during a meeting);
- reflecting on activities and practices, as they emerge or change, within the context of the research project;
- reflecting on social relationships within the context of the research, focusing in particular on the ways these social relationships play themselves out and change in relation to the organisational structure;
- reflecting on the action research process itself and the ways in which the group operates and changes over time (1988, pp.50-51).

While all of these four facets will be relevant in any action research project, the focus of the journal will to some extent be determined by the objectives of the research. Some writers see journals as closer to traditional forms of observation or log keeping (McNiff, 1988; Poskitt, 1995) but most have emphasised them as

an integral, reflective part of the action research process (Kemmis, 1982; Winter, 1989; Elliott, 1991):

> [They] should contain personal accounts of "observations, feelings, interpretations, reflections, hunches, hypotheses and explanations". ...Accounts should not merely report the 'bald facts' of the situation, but convey a feeling of what it was like to be there participating in it. Anecdotes; near-verbatim accounts of conversations and verbal exchanges; introspective accounts of one's feelings, attitudes, motives, understandings in reacting to things, events, circumstances; these all help one to reconstruct what it was like at the time (Elliott, 1991, p.77).

Overall, however, since action research stresses both observation and reflection (leading to revised action), reflective journals seem to be an ideal way both of processing on-going reflection and of recording data of various kinds to feed into the research process.

Our three projects used journals in different ways. For project one, only the paper coordinator and myself kept continuous journals. This decision was simply expedient: the tutors for the paper felt that on-going journal writing was too demanding of their time; consequently, on-going reflection from other members of the group was elicited in other ways (see p.142). I was the only member of the team who saw the journals in their entirety, and I presented the data from the journals, along with data from other sources, to the group in a general report.

Project two presented the biggest challenge in terms of data collection. I was the only member of the team who kept a continuous, reflective journal throughout the project; reflection was elicited from other members of the team in alternative ways (see pp.202–204).

In project three, all academic staff maintained a journal during their teaching time. The paper coordinator and myself kept journals throughout the entire cycle. The journals were self-directed, although the group would occasionally raise, at the weekly meeting, issues to be reflected on in the individual journals. During the reflection period, I assembled and coded the journals and then presented edited sections to the group to support the reflection process.

5.3.2 Student journals

Students in projects one and three were required to maintain journals or workbooks containing a journal throughout as part of the assessment of the paper. They were encouraged to write regular, self-initiated entries for the purposes of their own learning. In addition, teaching staff set regular 'entry' requirements for the students' journals, some of which directed students to reflect on their own learning experiences and their experiences of the teaching methods employed in the paper. Material relating to the evaluation or assessment of the paper or communicating useful student response to particular aspects of the paper was collected as part of the data collection process.

Student journals, then, had a dual purpose. On the one hand, they were a part of the writing to learn aspect of both projects, and to that extent an integral part of the curriculum. On the other hand, they were also a part of the data collection process. This could, potentially, have led to confusion and ethical problems. To counter this risk, staff emphasised orally and through the marking schedule, as well as by demonstration, that students could feel confident about expressing themselves freely, and that they would not be marked down for negative evaluation. In the event, we were given no indication that students experienced difficulty with the dual role of the journal despite the fact they were given the opportunity to provide this feedback or concern through their focus groups.

McNiff (1988) directly addresses the importance of students writing journals:[23]

> [Pupils' diaries] can provide direct feedback from the pupils' perspective. ...Guidance can be given by the teacher as to points to consider, but there should be little constraint on the pupils as to what they should write. The fear of censorship will remove some spontaneity, and if one of the reasons for the diaries is to gauge the situation honestly from the pupils' point of view, they should be encouraged to respond openly and honestly without fear of reprisal. If the teacher has the [pupil's] permission to read the diary and comment, a valuable dialogue may be set up (p.78).

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[23]While her comments relate to school research, the same principles apply in any educational context.

This latter point – that student journals, if read on a regular basis, may provide valuable information to the teacher, leading to dialogue, and the possibility thereby of change – was not taken up by the teachers in this context: student journals were only collected at the end of the paper and therefore their effect was limited to the next cycle of teaching, following reflection.

5.3.3 Focus groups

Projects one and three made extensive use of focus group interviews as a form of data collection. Krueger (1988) describes the following characteristics of focus groups. First, they involve people who possess particular characteristics that are of interest to the researcher and they provide qualitative data in a focused discussion (p.27). Second, they can be used in various ways in qualitative research: at the beginning of a research project to provide an assessment and indication of the key issues, or at various points in a project to provide feedback from particular groups. Third, they generally employ a moderator or facilitator to manage and record the group process.

Stewart and Shamdasani (1990, p.16) identify the key strengths of focus groups as follows:

- they are flexible. They can be used in a wide range of contexts and settings for a variety of purposes. They are also flexible within contexts in that the facilitator can broaden the scope of the discussion in response to focus group responses at the time that the focus group is operating if this is perceived to be useful; i.e. the interviewer is not tied to a series of questions but can operate in a semi-structured manner.

- the results of focus groups are easy to understand, unlike statistical analyses of survey results that may not be immediately accessible to untrained participants in a research project.

- focus groups allow for data to be collected from people who are not very literate such as children; but they are also a way of collecting information quickly from busy people.

- because focus groups have an open response format, they "provide...an opportunity to obtain large and rich amounts of data in the respondents' own words" (p.16). The researcher then has access to deeper levels of meaning and interpretations, and can make connections within a rich set of data.

- because the researcher interacts directly with the respondents, he or she is in a position to ask for points of clarification or to probe for more information. Non-verbal responses are also accessible, especially if the focus group is videotaped or recorded in some way.

- focus groups are quick and cheap (in comparison to other data collection methods) and can be arranged at short notice.

- perhaps the key strength of focus groups, as opposed to individual interview methods, is that they can elicit information based on synergy, when individual members bounce ideas off one another in a way that would not be possible with a single interviewee. Thus, different information may be explored and support for various perspectives probed (Robson, 1989).

Focus groups can be seen as particularly pertinent to our projects since they provided an efficient way of eliciting feedback from busy students who did not see their involvement in the projects as one of the major priorities of their changing lives. This was particularly the case for first year students who were experiencing major life changes and challenges of both a personal and an academic nature. As far as possible we ran the focus groups during class time, as an incentive for students to attend. Early attempts to conduct focus groups outside class times were not well attended.

I acted as the facilitator of the groups, since I was not identified with the teaching of the paper and could therefore be seen as a neutral moderator. The groups were made up of small groups of students that I randomly selected from the class list (but restricted to those students who had signed consent forms). Students who were involved in focus group interviews were fully notified that the information from the interview (possibly including a full transcript in the case of project three) might be made available to their paper coordinator or tutor for feedback purposes but that their identity in the interview would be protected. This was achieved through participants being chosen on a random basis. I asked participants to take part in the focus group during a lecture or tutorial period, without any teaching staff present. I tape recorded the interviews and either typed the transcripts myself or had them typed by secretarial staff from another part of the campus who could not identify students. I then edited the transcripts to ensure that any details relating to identity (e.g. the students referring to each other by name, or students mentioning an aspect of their personal or professional history that might be familiar to their teachers) were removed from the final transcript. Students were informed of their right to ask for a copy of the transcript.

For project one, I constructed the focus group questions (in consultation with the paper coordinator). The questions were based on concerns raised in team meetings and related to the objectives of the research project. No full transcripts were given to the paper coordinator or any tutors, but the information provided in the focus groups was incorporated into my report at the end of each semester, along with other forms of feedback and observation. In project three, however, because the focus groups had a dual function, namely to provide feedback on all aspects of the paper as well as on the writing to learn aspect, all teaching staff were invited to submit questions or to discuss with the interviewer those areas of the paper on which they wished to receive feedback. I then constructed a series of questions based on the questions and concerns of the teaching team. Once I had edited the transcripts for anonymity, a full transcript was provided to the paper coordinator. Other staff members were then provided with feedback (from the transcript or in report form) relating to the questions or concerns they had provided for focus group discussion.

For both projects, I conducted the focus groups as semi-structured interviews; in other words, the group discussion was not restricted exclusively to the questions on the interview sheet. If students began to discuss related topics of their own volition which were not included on the interview sheet, then these discussions were allowed to develop. See Appendix 4 for an example of a section from a transcript of a focus group interview.

5.3.4 Individual interviews of staff

Collecting data on individual group members' experiences and perceptions was considered important primarily because participants might not have felt comfortable making particular comments in a group context, given the roles that developed in each of the groups.

Individual interviews were not conducted for project three, where teaching staff showed a strong commitment to journal writing. For projects one and two, on the other hand, staff were interviewed on a regular basis, at entry into the project and at the end of each semester, as this was considered the most efficient way of collecting information on staff perceptions. The interviews were conducted on a semi-structured basis, to allow for maximum information, and the interview questions were designed to relate to the objectives of the project. For project one, information from the interviews was collated and integrated into the report to staff at the end of each semester cycle, along with other data. Staff were assured of anonymity at all times. I tape recorded the interviews and either typed the transcripts myself or had them transcribed by a person who did not know the participants.

Interviews, especially semi-structured interviews, are a useful form of data collection in that they support sustained interaction which makes possible in-depth discussion and exploration with a single source. They also allow the interviewer to observe and record non-verbal responses. Equally, they permit the interviewee to indicate and explore issues related to the topic which are of concern to him or her but which may not have been anticipated by the

interviewer (Winter, 1989; Yin, 1989; Burns, 1989; Poskitt, 1995). See Appendix 5 for an example of a section from the transcript of an individual interview.

5.3.5 Miscellaneous data collection methods

One of the difficulties in projects one and two, when staff were under pressure of work, was eliciting on-going feedback of staff experiences and perceptions. Various approaches to collecting these data were attempted throughout the projects, including tutorial assessment sheets (see Appendix 6), short reports by staff (see Appendix 7) on particular aspects of their experience (as soon as possible after the actual experience) and the recording of group meetings in either hand-written log form or occasionally through tape recording meetings. This latter approach was used several times for project two and transcripts of the meetings were made available to attendees of the meetings to promote further discussion.

5.3.6 Student assignments

Student assignments were collected on a random basis (subject to consent) for reflection on the writing objectives of each research group. Students' anonymity was protected if excerpts were included in any reporting procedure.

5.3.7 Written sources of data

Also collected were documents pertaining to the historical development of the degree as it related to the introduction of writing into the curriculum, along with subsequent documents which tracked the progress of this element of the curriculum (such as those addressed to the Degree Management Committee and memos between heads of departments).

5.4 Ethical issues

Part of the social and practical context of any research project is the ethical framework in which the process takes place; an action research process must

accept the ethical constraints imposed by its social context. Failure to do so, as Winter points out (1989), may jeopardise not only the process of improvement but also existing valuable work. We have already foreshadowed some of the pertinent ethical questions in the preceding discussion.

Because ethical issues for action research projects are complex, an ethical framework needs to be designed to protect the interests of the group and any outside researcher. Ethics committees may have difficulty grasping the nature of the project since action research does not draw clear boundaries between the researcher and the participants. This certainly was the case for our projects, where the question kept coming back from the university's Human Ethics Committee: "But who are you doing research *on*?" Assisting an ethics committee in understanding the nature of this kind of research may in itself contribute to changing the context in which research takes place. It also sensitises participants to the fact that they may have to lead other people gently to another understanding of what research might be, instead of pushing blindly ahead with false understandings of other people's perspectives.

The ethical guidelines for this study were drawn up by Massey University's Human Ethics Committee. They were as follows:

(i)   Confidentiality must not be breached
(ii)   We accept your assurance that informed consent from individuals will be obtained
(iii)   Participants must be notified that this is a research project
(iv)   The results published must not harm individuals and/or their departments

Scrupulous care was taken to ensure that all participants (staff and students) in the programme had completed consent forms, giving me permission to use paper materials, assignments and individual interview transcripts for the purposes of this research.

A problematic ethical issue was, as we have seen, that in projects one and three student focus groups were used as feedback for the project teams, and this might

potentially have harmed student-teacher relations. This issue was addressed as outlined on p.129.

One difficulty that did emerge with the focus groups concerned instances where the students were highly critical of a teacher in either a personal or a professional capacity. At times, the paper coordinator and I decided to provide only partial transcripts to teachers, or to provide a report based on the transcript. Staff in this situation were fully informed if the transcript they received was only partial and that a full version was available on request. No staff member objected to or questioned this approach. Had any staff member requested a full transcript, it would have been made available to them.

Another potential source of ethical conflict concerned the dual role of staff journals in one case study. Journals were given to me in their entirety, and sections from each journal were used for group reflection purposes. Using the journals in this way could have created difficulties since, although participants who kept journals were fully informed that what they wrote would be used for group reflection, they occasionally wrote material which, if shared with the group, might have damaged group relationships. In these instances I had to use discretion in withholding such information as well as ensuring that I had the author's consent to share any specific journal entries.

A key directive from the Human Ethics Committee was that the research not harm anyone. This raises the problem of anonymity on a number of levels: in relation to the institution as a whole, in relation to departments and faculties, and in relation to individuals, staff and students. An early decision was made not to give institutions fictitious names in an attempt to achieve anonymity. To provide fictitious names at this level must be self-defeating; in a country as small as New Zealand, with relatively few universities, such fictions would be easily penetrated. Also, since the relationship between process and the context of the research is a key focus of this investigation, the description of writing instruction as conducted in specific New Zealand universities is an indispensable aspect of the thesis.

A similar decision has been made concerning the faculty and departments in which the research took place. Again, attempts to disguise context seem unlikely to succeed, and, again, the particular context – applied science – is significant to the results of the study. Disguise would make discussion of context, paper content, and student assignment topics impossible.

Protecting the identity of individuals is a more contentious issue. In a small project with few players, such as project three, identification of individuals would be easily achieved. At times people's identities (e.g. the Dean's or a paper coordinator's) are difficult to disguise, but some comments from interviews and some actions require, for the protection of the individual, that I disguise my source. I have, therefore, in the writing of these chapters, simply exercised discretion according to context. Most quotations in these chapters are not given an identified source and actions are not attributed to particular individuals unless the identity of the source is significant in some way and disclosure would not be detrimental to that individual.

One final word about ethics. The ethical constraints on the writing up of this project mean that some of the story may not be told here. Because action research takes place in a 'real' context, some factors affecting the outcome of the projects are 'sensitive' to individual and institutions. 'Real' issues include conflict between departments, political undercurrents which were not always visible and which manifest themselves in unexpected ways, the constraints of the teaching and the academic calendar, and, inevitably, personal concerns.

It is in this area, in our understanding of the personal, political or institutional contexts, that some conflict between improving the present context and the dissemination of results may occur. The writer of an action research project needs to distinguish between two kinds of findings, those that only relate to one institution and those that can be generalisable to a broader educational context. The inevitable omissions, which are made necessary to protect individuals and institutions, are a frustration to the players and the writer, leading to a sense of 'fictionalising'. Nevertheless, we needed to recognise that, while some findings may not be publishable, they still have their influence on the immediate context

and participants' responses to that context. They remain a part of the change process.

5.5 Conclusion

The chapter has introduced both the methodology used to develop the projects and the particular data collection and ethical issues relevant to this study. One of the key questions of this study is whether action research is an effective way to establish collaboration between teachers in the disciplines and writing teachers in the design of a university writing programme in the sciences. The prima facie conclusions that can be drawn here are that action research seemed well suited to our needs because:

- it allows research to be conducted in a context of institutional change
- it, like WAC, cultivates an ethos of team-work, collaboration, and mutual respect
- collection of data is built into the process
- it encourages consultation of all parties: managers, teachers, and students
- its classic cycle fitted neatly into the semester system.

The following chapters describe the projects that will allow us to explore these provisional conclusions in greater depth.

Section Three: The Projects

Chapter 6. Project One: Communication in Applied Science

This conviction of shared ownership does not exist naively or ideally. It costs pain, perseverance, trust and pride and is jointly constructed by projects within schools and across faculty (Harvie, Moroney and Smith, 1997, p.118).

As we have seen from chapter three, papers concerned with teaching writing in a particular discipline did not exist within the New Zealand tertiary context in 1994, except, arguably, in business colleges, where business communication papers were not uncommon. Furthermore, all full-credit generic writing papers were taught by staff with training in English language or literature. This means that the decision by the Faculty of Agricultural and Horticultural Sciences to introduce a discipline-specific writing/communications paper, taught by subject specialists rather than writing teachers was highly innovative within the specific context.

Indeed, it was not the first option of the Degree Management Committee. When I first became involved with the project, it was considered (maybe even hoped) that 39.107, the Applied English paper, taught by the English Department and compulsory for all Horticulture majors since 1989, or 14.253, Business Communication, taught by the Department of Human Resource Management in the Business Studies Faculty, might be appropriate. While members of the Degree Management Committee were committed to including communications in the applied science programme, they gave only cautious approval to the idea of developing a paper within the faculty, supporting the idea in principle but doubting the ability of faculty staff to teach relevant communication skills.

The lecturer in Agricultural Extension called a meeting of all possibly interested and/or involved parties in June 1993.[24] I was invited in my capacity as Writing

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[24] See Appendix 8 for a timeline of this project.

Consultant for the Business Studies Faculty. Members of the English Department and from the Department of Human Resource Management also attended. From this, the initial planning team was formed, consisting of two members of the academic staff of the Faculty of Agricultural and Horticultural Sciences (one from the Department of Agricultural and Horticultural Systems Management, the other from Plant Science), and myself. I joined the planning team in June 1993, although my involvement was not confirmed until November 1993.

Following the meeting with staff members from the English Department and Human Resource Management in June, a decision was made to move ahead with a Faculty-taught paper (i.e. one not contracted to another department outside the faculty).

6.1 Cycle 1: Planning

6.1.1 Initial planning

The original curriculum planning designed two 7-point papers[25], one in each semester, the first of which would concentrate on writing skills and the second on oral communication and life or relationship skills. A decision was then made by the Degree Management Committee that all papers in the degree would carry 10 (x5n) academic points, so the two papers were merged into one, with a focus on written and oral communication; relationship issues and 'life skills' were dropped from the curriculum. The paper was 'located' in the Department of Agricultural and Horticultural Systems Management, and it was named in such a way as to ensure that it was seen as a 'core' paper, rather than one which led into

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[25] The significance of Massey University's point system is described thus in the University Calendar: "Every paper has a point value, which indicates its contribution to the qualification enrolled for. ...These values have been derived on the basis of an equivalent full–time year for a degree being 100 points. The point value also gives an indication of the total amount of time that a student must reasonably expect to have to spend on each paper in order to satisfactorily complete the assessment requirements (1999, p.74).

any particular programme.[26] A memo was then sent around the faculty asking for volunteers to teach the paper.

Prior to the teaching team coming together, the initial planning team made decisions about prescribed texts [27] and designed a basic paper structure, while I wrote and edited a Style Manual.

6.1.2 Style Manual

The planning team initially intended to prescribe a text that would provide writing guidelines for students in the applied sciences. We were looking for something that would be geared towards first year students who might be unfamiliar with the conventions of applied science writing. When we could not find a suitable text (most texts that we explored were more suited to pure science writers or to postgraduate students), we decided to produce our own. The Style Manual was designed as a resource for students to introduce the conventions of writing in the applied science disciplines. Based on a similar text used on another section of the campus, the Manual was broadly focused to include guidelines across all the relevant disciplines, from 100 level to 300 level.[28]

Compiling the Manual involved collecting assignment directions and resources on science writing currently given to students and determining the major categories of assignment used in teaching. I then read widely on scientific writing, discussed assignments with academic staff, and from this range of resources generated a table of contents. Various members of the faculty wrote

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[26]In fact, the name of the paper was a contentious, political issue that was debated through three cycles of the paper. The paper needed to have a clearly agricultural name to qualify for a particular category of EFTS funding; however, pressures to name the paper to lead into a specific subject area e.g. Ag Extension 1, were resisted since core papers were not intended as feeders to specific programmes.

[27]Texts were Newby (1989) and a good dictionary (e.g. the Concise Oxford). Recommended texts were McCloskey (1987) and the New Zealand Style Book (1992).

[28]The text used to design the Manual was *Writing guidelines for business students*, which I had written in my role as writing consultant to the Business Studies Faculty, and which was used as a core text in business papers. In later years, both texts were written up as books and published by the Dunmore Press.

chapters for the Manual, while I wrote several chapters and edited the whole text. The resulting draft was then sent to staff members who had not been involved in the writing, including two other heads of department, for comment and amendment.

Following production, the Manual was sent to two scientists outside of the university for comment on usefulness and accuracy, and staff and students engaged in 19.155 were asked for assessments of the Manual at the end of the Cycle 1 in individual and focus group interviews.

6.1.3 Data collection

A major issue that needed to be considered in the initial planning was how we would collect data to evaluate our programme. I adopted the role of data collector for the group in terms of observation and evaluation. Data collection methods used included:

- pre-entry and exit interviews with all staff
- tutor evaluation of all tutorials using a pre-set form
- focus group interviews with students
- student evaluations at the end of the paper (within the student journals)
- staff journals (paper coordinator and myself)
- records of all best and worst assignments
- records of all meetings

6.1.4 Curriculum development

The major elements of the initial curriculum design were established for the whole group meeting in November by the initial planning team, but were refined and discussed by the teaching team prior to the first semester 1994.

In June 1993 the initial planning team produced a document which outlined the principles of the core communication paper(s):

- that the teaching of writing should be faculty-specific ("The best place to teach students about writing in agriculture and horticulture is in agriculture and horticulture papers").

- that a programme to promote student literacy must have two elements: formal instruction in basic writing skills and a writing across the curriculum policy to ensure that writing skills are reinforced and enhanced throughout the curriculum.

- that 'remedial' problems should be dealt with by a remedial specialist or learning consultant.

- that students learn to write by writing.

Throughout the period June – November 1993 the planning team met regularly to brainstorm and discuss approaches to the paper. The paper coordinator wrote constantly in his journal, reflecting ideas in a random fashion:

> It is important that students read about AgHort as part of the process of learning the language of the disciplines. Hence we should have a set of 'readings' as part of the paper. They should be 'neutral' in that they could be read by all students regardless of their endorsement [i.e. whatever their majoring subject]. How do we include readings in the paper?

> I thought of writing to HODs to collect recommended readings in their discipline ranging from popular press to formal journal papers (as listed in the faculty research report). ...After discussing the idea with the group, it appears it may not be easy to identify journal papers that are suitable for first year students to read. Most will require considerable prior knowledge about the topic. Perhaps this says something about the quality of our professional writing if it is so unreadable to the lay person? (20.7.93)

A few days later he was reflecting on the difficulties associated with teaching writing and speculating about the difference between recognising problems and explaining or teaching them:

> The easiest way (for me) to deal with poor writing is to laboriously correct it! Can't do this in the Communications paper. We need a code of some sort e.g. S = spelling, P = punctuation etc. Collect examples from the projects to help develop a marking code and a set of examples? (27.7.93)

In August the planning team made the decision to focus on tutorials as the major teaching mechanism (a major decision, since tutorial teaching was relatively

unknown in the faculty), and by the end of that month, a draft paper prescription and paper narrative had been developed which focused on skills rather than themes.

The planning team throughout this period was reading widely on aspects of science writing and teaching writing. The paper structure was still the subject of considerable debate and individual preoccupation in September:

> [I] have put a copy of the paper outline (lecture and tutorial topics) on the wall where it is easier to see and think about in odd moments. I think I/we need to develop the narrative paper outline a step further. It provides a logic and flow that is missing in a list of topics (paper coordinator's journal 20.9.93).

Despite this desire for logic and flow, the paper as it was conceived in this early stage showed little thematic coherence, being focused instead on key skills we wished our students to acquire. The paper was roughly split in three, with an initial focus on knowledge acquisition and processing (including word processing), followed first by writing skills and then by oral communication skills.

The early meetings of the teaching team,[29] however, required us to articulate the ideas behind the paper. At the first meeting, held on 25.11.93, we focused on the following ideas:

- writing, reading and speaking are important parts of the process of learning the disciplines of agriculture and horticulture
- we (the faculty) have expertise in writing, reading and speaking in our disciplines
- the paper should require students to write and speak as often as possible
- rapid and effective feedback from tutors will be required
- minimal marking strategies will be required[30]

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[29] i.e., the initial planning team plus those people who had volunteered to teach the course. In the event, not all of this group actually taught in the first cycle – some delayed their teaching involvement until later cycles.
[30] See Haswell, 1983.

- reinforcement of knowledge and skills will be needed in other B.Appl.Sci. papers: 'writing across the curriculum'

The teaching team continued to meet through December on a weekly basis to discuss the structure of the paper, its base philosophy, teaching approach, tutorial structure and task allocation. The focus of following meetings was largely on operational details (who was teaching which aspect of the paper, who was preparing the material for various tutorials, how to run tutorials), but also on pedagogical aspects such as assessment and tutorial structure. Decisions were made by the teaching team to introduce the theme of writing for an audience, to include a journal or workbook as part of assessment, and to standardise the tutorial format.

A major area of discussion centred on the rival claims of transactional writing and 'good' writing, where good writing conforms to identical rules in all contexts, so that audience becomes irrelevant. On the whole, though, the group was committed to a transactional style of writing as its focus for the paper.

When meetings resumed in February 1994, following the Christmas break, the structure and direction of the paper had been confirmed and much of the teaching material was written. See Appendix 9 for an example of the teaching material designed by the teaching team.

6.2 The teaching team

It is common, in most writing and communication papers, in New Zealand and elsewhere, for the paper to be administered by senior and/or permanent academic staff and for a large proportion of the teaching to be the responsibility of temporary, casual, or junior staff[31]. A significant characteristic of this teaching team, then, was that all were permanent staff and most were long-standing or senior staff; all were of lecturer status or above, including two associate

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[31] This is confirmed in the data collected for chapter 3.

professors. It is also a commonplace of communication papers that they are taught predominantly by women.[32] Again, this team was singular in that it was predominantly male: in two cycles there was only one female member of the team beside myself, and in the second cycle there were no female tutors.

Of the group engaged in the design of the paper (i.e. those in the original teaching team), six were from the Department of Plant Science, one from Animal Science and four from the Department of Agricultural and Horticultural Systems Management. The final teaching team for the first cycle was five from Plant Science, one from Animal Science and three from Agricultural and Horticultural Systems Management. While the composition of the team altered slightly in each cycle, the proportion from each department remained the same except for an additional member from Animal Science in cycle 3. Most of the team had volunteered to be involved, but two had been 'volunteered', one of whom was not comfortable with his involvement in the paper. Most, however, had a strong personal or professional interest in the next task. One member describes his diverse motivations:

> This was the way I could get experience at 100 level teaching, help improve the atrocious writing I was now seeing all around me, and also further improve my writing skills. I also wanted the opportunity to dismiss the perception held by 'senior others' in the faculty that I couldn't work in a team. I was also bored working only with people in my department (Date not specified).

Others had more ambivalent motivations:

> I guess in the end I had my arm twisted...I've got a lot on my plate this year, but [the paper coordinator] said I should. And I mean, I agreed with him because I think I've got some things that I can offer a course like this...but also it is a complementary activity to the agricultural extension courses I teach (23.2.94).

The paper coordinator was highly motivated. His experience in teaching extension combined with a long-term concern for student literacy. In 1991 he had conducted a small research study of first year students' literacy and study skills and had participated in the Working Party on Student Literacy (see p.63). I

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[32] In 1993 in the business communication paper at Massey University, for example, the paper coordinator was male and all six tutors and markers were women.

described the development of us both in terms of attitudes to literacy in my journal:

> I know [the paper coordinator] from my involvement in a working party on literacy. ...[He] and I were at extreme ends of every debate. He was a back to basics man who wanted an entrance exam for all students based on grammatical testing. I was opposed to the teaching of grammar and believed that, rather than testing, the university should provide full support for students and the teaching of writing in what I now call a discipline-specific context.
>
> In the period between the report of the working party [1991] and our meeting in April 1993 both [he] and I had mellowed considerably in our positions. [He] had read widely on the use of writing in teaching. I had...encountered genre theory and systemic linguistics for the first time and had, at the same time, discovered from my own practice that some students do, in fact, respond well to being taught grammar (December 1994).

Another strong motivating factor for the paper coordinator was that he had, while on sabbatical leave, encountered and audited communications and life skills courses in Agriculture programmes in North American universities and had been strongly impressed by their objectives and results.

My own involvement in the project was explained to the teaching team in the first meeting. While some members of the group spoke positively about encounters with members of other faculties, particularly in the Education Faculty, others had less positive experiences. I spent much time in these early stages (and throughout the project) talking and listening with people, exploring their experiences and concerns. I also worked as an assistant to the paper coordinator, preparing materials and acting as a sounding board for his thoughts on paper development. Three things seemed critical to the other team members' acceptance of my involvement: my experience as a writing teacher, my inexperience with scientific writing, and the fact that my interest was research-oriented. Clearly I had skills that would be useful to the group but I was able to acknowledge other members' areas of expertise: I was not going to impose 'English-department style' on our work together. The research issue also seemed important: several people during interviews talked both about helping me with my research and the possibility of joint publications and opportunities. Nevertheless, even with these factors on my side, finding my feet in the group took time. At the beginning I was definitely an 'outsider', both from my own

perspective and that of the other group members, and remained in that role for some members of the group throughout the project.

However, the lack of initial cohesion probably made my acceptance by most members of the group smoother. During the planning stage, the teaching team showed little cohesion. The team as a whole had never worked together before, although some members had had professional associations with other group members – some of which had not been positive experiences. There was some tension between the two departments most represented in the group, tensions concerning the focus of the paper and between individuals. Moreover, none of the group had had experience teaching writing before and none had experienced a writing course of any kind, i.e. they had not been taught writing in any formal sense through their own degree programmes. On the other hand, some had taught in fields that were closely associated with communication, such as extension, and some mentioned working with postgraduate students as involving teaching writing.

During entry interviews, most staff mentioned concern with students' communication skills and also expressed anxiety that unless the rest of the faculty, in its teaching, put an emphasis on communications, the paper could achieve little on its own.

6.3 Cycle 1: Students

With the introduction of the new degree at the beginning of cycle 1, the composition of the student group enrolled in the first two cycles was abnormal in comparison to the composition of most first year compulsory papers.[33] Students who had, in previous years, been enrolled in the degree programmes which had been displaced were counselled to join the new degree programme. This entailed

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[33]In the first two cycles, this paper was not compulsory i.e. two other papers, 39.107 and 14.253 were alternative options, but some form of communications paper was compulsory for all applied science students, with no exemptions. By the third cycle the two alternative options had been discarded, so 19.155 was a compulsory paper.

them taking most of the core competency first year papers of the new B.Appli.Sci degree, which were compulsory for the new degree. Consequently, the communications paper had a high level of second and third year students who did not consider writing or communication to be a natural part of an agriculture or horticulture programme and who were antagonistic to this curriculum development. The behaviour of the class – particularly during lectures – was therefore a matter of on-going concern throughout the first cycle.

6.4 Cycle 1: Action and observation

Teaching in the paper began in February 1994. 240 students were enrolled in this first cycle of the paper, considerably more than expected, and extra tutors (staff who were included as part of the teaching team but had not expected to teach until the second semester) were enlisted in the two weeks prior to the paper commencement.

Meetings were held each week of the semester, on Monday mornings, prior to classes. These meetings became an essential part of the culture of the paper and over time the group became highly cohesive with individuals taking on particular roles and thus being able to offer comments on behalf of absent members (an example was one team member saying, about an absent member of the team: "I'll be X... and say aren't we legislating for the lowest denominator here?"). Tutors referred to the regular meeting, with irony, as their 'support group'.

The purposes of these group meetings were many. They were used to hand out material for the coming week's tutorial, to discuss how it could be taught, to trouble shoot and to make adjustments to material that emerged as problematic. For example, the group had difficulty with the concept of minimal marking,[34] which was interpreted in different ways by group members, and so the meeting

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[34] See Haswell, 1983 for full details of minimal marking. Simply defined, it is a process whereby a tutor marks an error (using an established code) on the margin of a script but does not indicate the actual error on the text. The script is then returned to the student who locates the error, corrects it and then returns it to the tutor for confirmation and a grade. No grade is given until the student returns the script with all errors identified and corrected.

was a time when this strategy could be discussed. Similarly, the structure of tutorials was discussed and problems and successes with the structure of the class explored.

The paper was taught in two ways: 1. a large class lecture, and 2. tutorials with a maximum of 30 students (though the number varied from group to group, with one tutor only having 12 students). The lectures were presented by individual members of the team. Two of the problems I noted in my journal (7.4.94) were that every lecture was taken by a different person and none of the staff had experience lecturing to such a large group of students; consequently, there were control problems which were compounded by the antagonism of a portion of the class.

In this cycle, the staff had maximum opportunity to design their own classes in the tutorials since the direction for each tutorial was minimal, and none of the material had been tested. For some of the staff, this lack of direction was very difficult; for others it was what allowed them to gain mastery of teaching this subject, as they were compelled to design their own material.

The key pedagogical features of the paper in this cycle were:

- the use of lectures
- the introduction and structure of tutorials
- minimal marking
- a focus on skills (including grammar and other technical aspects of writing)
- the use of set texts
- the use of the Style Manual
- 100% internal assessment
- the use of a journal
- the separation of the oral and writing components
- the introduction of peer editing

A month before the end of the first semester, the paper coordinator retired, leading to a territorial skirmish over ownership of the paper between the Departments of Agricultural and Horticultural Systems Management and Plant Science. In the interim, a member of the Department of Plant Science was appointed as paper coordinator until the end of the semester.

6.5 Observation and reflection

At the end of the first semester, all data were collected and assembled into key areas, and I constructed a report for the teaching team based on all feedback (from staff and students). The key points taken to the group for discussion were as follows.

Semester 1 1994 was an abnormal cycle for the following reasons:

1. The first year of operation of a new paper is always problematic; when every member of staff is teaching outside their field this is especially so.

2. The cross over to the new degree resulted in large numbers of returning students enrolling in this paper; the class, therefore, was unusually large and class composition atypical. Much of the resistance to this paper was generated by returning students; this was not expected to be a problem in later cycles.

3. A change in management occurred in mid-cycle.

6.5.1 Materials

Neither Newby, the class text (which was used as a reference book by students), nor the Style Manual was sufficiently integrated into the paper. Students observed that they were directed to use the Style Manual in other papers (e.g. Applied Science and Farm Management) and found it useful, but didn't use it for 19.155. Many criticisms of the paper suggested the students hadn't read the

teaching material – and probably hadn't been directed to it at the appropriate times.[35]

A further matter of concern related to a lack of material on grammar and the teaching of grammar. Newby, which did contain sections on grammar, was no longer available and a new text was required to cover this section of the paper, since grammar issues were not sufficiently addressed in the Manual.

Issues that needed to be addressed were:

- a new text for the paper
- addition of material on note taking and preparing OHPs in the Style Manual
- more convincing integration of the reading of the texts into the paper

6.5.2 Lectures

Lectures were considered by the students to be one of the weakest parts of the paper. There was little incentive for students to attend and class behaviour was poor. Students commented that the paper seemed to be in two parts with the 'real' part taking place in tutorials where attendance was consistently high. Another concern was that the lectures were not always in the right order. For example the lecture on writing practical reports was too late, coming just before the practical report was due in, when most students would have completed late drafts.[36] By contrast, the lecture on presenting data came too early, before students could see the significance of the material to their own work.

My recommendations in the short term were to reassess the order of the lectures and to clarify the structure of the paper, perhaps by introducing a central theme or concept. Long term recommendations were to reassess the need for lectures

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[35] For example, the Style Manual contained information on how to find material, and Newby contained a section on note taking, but students commented in focus groups that there was no material in the paper which provided information in these critical areas.

and to change their timing if they were to be retained;[37] to consider introducing specialist workshops (e.g. word processing workshops, seminar presentation workshops) to better meet the needs of a diverse student group; and to consider writing a study guide, in order to give more stability and cohesion to the paper.

6.5.3 Tutorials

While lectures were seen as one of the greatest weaknesses of the paper, the students saw the tutorials and the tutors as its greatest strength. Student comments included a request for more computing, an indication of the need to clarify the objectives of each tutorial, and a clarification that there was a problem of consistency – in marking, in class content, and in procedures. Some tutors, for example, let students take work home while others had to do it in class.

Immediate concerns were to:

- rewrite the computer practical. The computer practical was a simple introduction to using the computer labs (including logging on and creating passwords) and using word processing and spreadsheet packages. We found during this cycle that students' computing skills were less advanced than we had expected, so the material had to be simplified and extended.

- take the glossaries out of tutorials. Glossaries were used as a way of promoting oral communication skills in tutorials. The class was given a list of terms and each member of the class was asked to present the definition and application of the term to the tutorial. Tutors decided that the glossaries were too time consuming and not relevant for all students.

- extend and structure the peer editing procedures.

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[36] In the first year of an applied science degree, students are required to write a report on practical experience they have had during the previous vacation. This report was known as the practical report.

[37] Some students commented that they had lectures and labs from 8am on a Monday to 5pm without a break, and since the 19.155 lecture was at lunchtime, they took this opportunity for a break.

- review the English and Science tutorial. The English and Science tutorial focused on grammar and style. Almost all students disliked this tutorial, some on the grounds that it was far too simple and taught them nothing new, and others on the grounds it was far too hard and they did not know what the tutor was talking about. Staff also found the tutorial difficult as they were uncomfortable teaching grammar and could not always see the reasons for things – I had several phone calls from tutors, just before tutorials saying "What is a preposition and why can't you end a sentence with one?"

- clarify the objectives of each tutorial.

- direct tutors to take a consistent approach to completing work in tutorials.

Long term recommendations were to completely review the material in each tutorial, to review peer editing, either integrating it more consistently or discarding it entirely, and to reconsider the relationship between tutorials, lectures and teaching materials.

Generally, however, tutors and students spoke positively of the tutorials. Tutors reported spending, on average, two hours preparing for each tutorial and many spent much longer preparing their own teaching materials.

6.5.4 Assessment

Students objected strongly to the weighting of the assessment towards the end of the semester when workloads were very heavy. Despite these concerns, students and staff favoured the 100% internal assessment approach.

My short-term recommendation relating to assessment was to retain most of the evaluation methods for another cycle with minimal adjustment to some exercises. Comments from staff and students did not point to any firm directions. For example, staff, on the whole, had found the workload, with the marking of small assignments, heavy, while students had enjoyed the regular small assignments and would have preferred more of them to doing the journal. Minimal marking

had, likewise, drawn a mixed response with staff again focusing on the work involved for them as markers, while students had conceded the value of having to locate and learn from their own errors.

One form of assessment, however, needed urgent attention. Revision of the journal needed to be considered prior to the beginning of semester 2. We had included journals as part of the course because we had been impressed by the literature on journals (such as Fulwiler, 1987; Zimmerman, 1991) and wanted our students to use writing to reflect on their learning experiences. However, we had not appreciated the need to structure this process, instead telling students to simply write about their experiences and thoughts for a minimum of three times a week. Subsequently, staff and students alike were unhappy with this nebulous structure and unsure of the purpose of the journal as it operated in cycle 1. I suggested four alternative approaches:

- abandon the journal.
- identify the purpose of the journal more clearly and explain it and its benefits to students more convincingly.
- structure the journal more tightly (see Bean & Ramage, 1986).
- structure the journal tightly in the first few weeks (for example, using tasks such as those outlined in Bean and Ramage) and then relax into journal format. This option would balance the workload against the end of semester weighting but would require staff to spend more time explaining the journal and checking it in the first few weeks.

The seminar reports were similarly reported to be a positive experience by the students. In this first cycle, the seminar report required students to investigate a topic (from a list of pre-prepared topics) and present both a written report and a seminar to the class on that topic, which were assessed separately. Students commented positively on both the seminar and the report. However, two issues relating to the seminar report needed to be urgently addressed: first, the level of difficulty of the topics (some subjects required much more advanced investigative skills than others) and, second, whether students should be allowed

to choose their own topics or not (some tutors were allowing choice while others were not). The original intention had been to allocate topics on a random basis with students having no choices. In the event, students objected to this very strongly: animal science students, for example, did not feel motivated to study a topic on growing mandarin oranges, and horticulture students were uncomfortable with a topic on shoulder-milk production. Consequently, some tutors allowed students to choose from the list of topics while others allocated the topics randomly as planned.

6.5.5 Curriculum

Staff and student comments on the curriculum were focused quite differently. Students focused on the practical application of the skills they were being taught, in particular on learning business communication skills such as writing a CV or business letters and interviewing skills. Staff, by contrast, focused on the cohesion of the paper and the relationship between different aspects of the curriculum.

My key recommendation in relation to the curriculum was to incorporate a key theme (or themes) that would build up the cohesion and coherence of the paper, such as a communication model or the significance of communication in agriculture. Students, it seemed, needed to understand why communication was part of the core of their curriculum. These key themes (or this key theme) needed to be built up with practical exercises which would underline the concept.

In the long term, the paper needed to be completely restructured around these concepts and its objectives reassessed.

In my journal, I commented on the staff interviews as follows:

> At the end of this semester, all staff rated their confidence levels in teaching writing higher than they had at the beginning. However, most significant in relation to that increased confidence was the language used in discussing the paper. All staff were interested and competent in discussing modes of delivery, the comparative value of different approaches to teaching writing; all were capable of informed discussion on the relative importance of style, information

retrieval skills, and grammar. The paper itself seemed to have refined in its definition from a generic communications skills course to a paper in the more specific area of applied science writing. Staff were also confident about evaluating the value of various student assessments of the paper without defensiveness, and able to incorporate student criticism into the replanning of the paper (July 1994).

6.6 Reflection and planning

Reflection and planning for cycle 2 were hampered by a discrepancy between the operation of the faculty and the rest of the university. Massey University was still operating under a three-term year with full year papers in 1994, with an anticipated move to two-semester teaching years commencing in 1995. With the advent of the new degree, the Faculty of Agricultural and Horticultural Sciences was operating on a two-semester system in 1994, but constrained by the university term vacations. Consequently, in semester one, there was a three-week break in May, but only a one-week break between the end of exams for semester one and the beginning of semester 2. This was a one-off disruption, caused by the anomaly between the two systems, but it affected the extent to which the paper could be altered between the two cycles. Despite these difficulties, the group ran meetings throughout the week of exams and the following week, and, as a consequence of staff and student interviews, made the following minor changes:

- two major themes were introduced: the relevance of communication to the primary sector and a communication model (a very simple S-M-C-R model[38])
- changes were made to the structure of the journal, according to the fourth option outlined on p.155
- computing tutorial time was doubled
- glossaries were taken out of the tutorials and put into the journal

In this semester a member of the teaching team from the Department of Plant Science was still acting paper coordinator with no confirmation about his permanent status.

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[38] ie, a Sender-Message-Channel-Receiver model.

6.7 Action and observation

The second semester of 1994 saw a very different cohort of students enrolled in the paper compared with the previous cycle. Because of timetable clashes, almost all the 70 enrolling were first year horticulture students. Since all the tutors teaching in this semester were from Plant Science they were able to report a very close affinity and relationship developing with their classes.

The acting paper coordinator introduced a far more structured and organised style to the class. In particular, the material he produced for tutors was more detailed and structured than that produced by the previous paper coordinator. The new staff member who was proposed as the alternative paper coordinator from the Department of Agricultural and Horticultural Systems Management also became involved in the lecturing, and his ideas relating to teaching communication theory began to influence the teaching group.

The same methods of observation were used as those in semester 1.

Several issues arose during this cycle:

- students with English as a second language became an issue. There were concerns about the fact that work produced outside class was of a considerably higher standard than that produced in class. The marking schedules for the seminar report also became a matter of concern. Students with very poor spoken English skills could gain a high mark if their seminar was well structured due to the weight of the marking being placed on the seminar's overall structure.

- new tutor confidence was another concern. The teaching team was now composed of a mix of new tutors and tutors who had taught in semester one. This led to some difficulty where teaching issues were taken for granted by the 'old hands' but remained matters of grave concern to new members. New tutors reported that while they could recognise something wasn't right, they

didn't always know why. The situation seemed to be exacerbated by a very passive class. The new tutors in this group seemed to experience more stress than the teaching team in semester 1.

- reading was a matter of concern. While overhauling the Style Manual for cycle 2, I studied both the student comments about the Manual and the style of their assignments and it was clear that most students seemed uncomfortable with a formal style of writing. When I began to query what students were required to read within their first year papers, it became apparent that they were not required to read anything but study guides. The 19.155 teaching team began to talk about providing readings, as a way of modelling the types of writing required of students.

6.8 Reflection

The reflection stage of cycle 2 brought together the teaching team from both cycles 1 and 2. There was considerable overlap between the two groups, but many of the tutors for the first cycle returned for this stage of cycle 2, to take part in reflection meetings. The end of semester two left more time for adjustment and reconsideration of the curriculum and delivery. There were still constraints, however. For example, the calendar description of the paper had already been written (as required by the university) so the methods of student assessment had already, to some extent, been decided. For instance, the acting paper coordinator had decided, without consultation, that the paper would have a 40% examination. The reflection and replanning process, therefore, had to take these decisions into account. Once again I constructed a report based on staff interviews and student focus group interviews. The issues focused on were as below.

6.8.1 Operations

The first issue considered was the operation of the paper, and in particular the following points:

- how to more effectively integrate the texts and tailor the Manual more to the paper.

- how to use lectures more effectively and encourage attendance. Lectures were still badly attended, and the relationship between lectures and tutorials was not always evident to students. Furthermore, a student commented that the material in the lectures was always repeated in the tutorials, so there was no point in going to the lectures.

- an exam was likely to ensure students attended the lecture, but this did not take away from the fact that the lectures needed more substance.[39] The order of the lectures needed to be more appropriate, and the teaching methods needed to become more cohesive.

- how to standardise tutorials. The tutorials and the tutors once again emerged as the paper's greatest strength. Tutors prepared well and produced material to fit the needs of their particular group and their own teaching style. However, the advent of an exam meant that the tutorials would need to be more standardised. For example, one tutor, in the tutorial on paragraphing, was teaching complex techniques such as how to build internal transitions where other tutors were barely getting past the concept of a topic sentence. Clearly some method was needed to allow maximum flexibility of approach while ensuring uniformity of examinable material.

- how to use peer editing and minimal marking techniques more effectively.

- how to restructure internal material now that a 40% exam was included in assessment. The other issue of concern to the students was the uneven

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[39] One student commented in the focus interviews: "I haven't learnt a lot. Some of the material is so obvious. I don't sit down and say right, now I'm in the writing process, what five things do I need to know? Who does that? You do those things in your first primary school years when you learn how to write a story. So now, you automatically do those things without thinking about them. It's a natural thing; you don't need 50 minutes of someone lecturing you on the topic. I wanted to give him a slap and say 'Hey! Get on with it!'. AND he was reading the exact words on the handout" (October 1994).

marking distribution, with marked material still heavily skewed to the end of the semester. This imbalance needed to be addressed.

- several operational difficulties seemed to have been solved in this second cycle:

- one of the most surprising changes between the first and second semesters was an attitude shift towards the journal. At the end of the first semester, students and staff were almost totally united in disliking the journal. However since the initial entries had been made more structured, and tutors had made a more assertive effort to 'sell' the journal, many students did agree that, while not always a pleasant task, it did have worthwhile results.

- the oral and written versions of the seminar report were commented on favourably by students, with the problems of the previous semester being overcome. This may have been because prior to the second cycle, the teaching team had closely assessed each tutorial topic for level of difficulty and produced a shorter, but more uniform, list of topics.

- whether students should be allowed to choose their own topic was the only remaining issue of concern.

6.8.2 Curriculum

The original paper focused on skills, some of which might be considered quite generic. Over the two semesters, the paper moved into a more discipline specific context, to the extent that other, more generic papers (such as Applied English or Business Communication) were dropped as approved alternatives. Some students were acknowledging the difference between the generic teaching of writing and 19.155. As one student put it: "it's different to school – we didn't do things like abstracts, reports. Punctuation, paragraphing, we did do that at school – but it was very different to doing English." However, many students in the focus groups did not recognise the difference between basic skills ("what I learnt in 5th form English") and the specific skills taught in this paper, suggesting that a

clearer and more context specific focus for the paper might increase its credibility.

Students voiced two other concerns: that the paper was not practical enough and that there was a written/oral imbalance. One student commented, to murmured agreement from the focus group: " I would like more on CVs. One lecture was not enough. And business letters, business reports…the seminar was good – we need that." All the focus groups agreed more speaking was needed – they would have liked both more seminars and more emphasis on how to talk with other people more effectively.

My first suggestion about the curriculum was to gear all writing exercises around practical or applied contexts, focus on writing for an audience as a major theme, and teach grammar, punctuation and technical matters in the contexts of the practical projects. In these ways, the difference between this paper and 5th form English would be more apparent.

At the same time, I highlighted an alternative theme of writing for an academic audience, since few students seemed to be able to grasp the conventions of academic writing such as accurate citations. While students did not identify this as a need, it was a frequent theme in staff interviews.

One of the issues which also arose from the data collection at this time, but which I did not discuss in the report, was the increase in tutor confidence. Two passages from the interview transcripts illustrate this:

> You know, the concept that this course was actually run by staff within the faculty I think was one that was looked at a bit sideways by a lot of people. But I also think it was the right decision – because if, for example, the English Department had volunteered to do this course, or simply a core paper had been an adaptation of an existing paper in English, as an example, I think the emphasis would've been wrong. I don't think the people involved – I think the people involved in that situation would have found it very difficult to get to grips with what needed to be in this core paper. And so, you know, none of us have any claims to be teachers of English or even teachers of writing, but with the resources available, with the help available, I do think we can develop a course which does mean all we're setting out to do, and that the individuals involved in the lecturing and the tutoring are more than capable of presenting and teaching in that course (16.10.94).

I'm using this, I'm using writing a lot more in my other courses and I'm expecting a lot more of the students, and I'm pushing communication a lot more. ...So yes, I guess I am still as ferverous about it I suppose, but maybe just a bit more realistic, and more confident that I can deliver what I'm supposed to (16.10.94).

Most tutors rated their confidence higher than they had in previous interviews; only one, a new tutor in that cycle, rated his confidence as being as low as before the paper began. The majority also discussed the importance of extending the teaching of communication beyond the single paper and the futility of teaching communication in isolation from the rest of the curriculum.

6.9 Cycle 3: Planning

Each of the topics outlined above was considered fully by the complete teaching team during weekly meetings over the summer period. As a result, the following changes were made to the curriculum:

- mastery learning tests were introduced to teach technical skills. The logistics of these tests took up much of the group time over the planning stage. Also, the issue arose of what could be taught in this way. Their most obvious function was to test quick recall and right/wrong material, such as referencing and grammar. Originally it was proposed that writing for a client and referencing modules be included in the mastery tests, but finally three topics were chosen as test pilots: punctuation, paragraphing, and English and Science. Students were provided with self-tutoring material and optional support classes and then required to pass the tests within a restricted period of time in the first few weeks of the paper. They were allowed to sit the tests as often as they needed within the specified time period. Students were required to pass all mastery tests, with the minimum score set at 80%, although no internal assessment marks were allocated to the tests. One of the major advantages of these mastery tests, as they were envisaged, was that students who were competent in these fields would not need to spend time on them, whereas those who experienced more problems would have time to focus on them. See Appendix 10 for an example of mastery test study material and a mastery test.

- the oral component was increased through a tutorial on questioning, listening, and giving feedback.

- the workbook focus was adjusted.

- library and computing material was increased.

- writing for an audience and academic writing themes were introduced.

6.10 Action and observation

The observation methods for cycle 3 were the same as in cycles 1 and 2.

A consequence of the changes in structure was that the tutorials almost completely changed in character. In the past the tutors had designed much of their own material, based on rough lesson plans for every tutorial which were often put together by the teaching team as a group; in this cycle lesson plans were fully developed by the paper coordinator and were very detailed, so that tutors had almost no input into what they were teaching. This may have been unfortunate, given that the students in previous cycles considered the tutorials as they were originally conceived to be the strongest component of the paper. On the other hand, the mechanics of writing were moved out of the tutorials, so that tutorials were freed up for much more focused communication in applied science material, material that was now more coherently produced for each tutorial from a single source.

The paper was more evenly balanced in terms of workload, with a heavier weighting in the first part of the semester.

This year the rest of the university changed to a semester system, allowing for a more logical structuring of time and greater reflection period between each cycle.

The teaching team was altered from the previous two cycles, with new members joining the team. Once again these members lacked confidence in their ability to teach writing. The team, then, became even more sharply divided between the cohesive group that comprised the earlier teaching team, who had been and still were highly motivated and who had chosen to volunteer their time to teaching this paper,[40] and the new members who lacked confidence and who had been volunteered by their Head of Department. This division was to present some problems in cycle 3, with more experienced teachers less likely to support the new members than they had been to support each other during the previous cycles.

Leadership of the group was stronger in this cycle. The previous acting paper coordinator was confirmed in his role and took a stronger lead than he had in the previous cycle, partly to assist the new members and also to achieve the increased uniformity of material that was required with the introduction of the exam.

The Style Manual remained unchanged from the previous cycle, and no other text was included besides teaching material.

The class was approximately the same size as that of the first cycle (i.e. approx. 240 students) but was far more homogeneous. There were far fewer returning students i.e. most were enrolled in the Applied Science degree from their first year. Members of the class asked questions in lectures and most students took notes. Tutors reported that their classes were lively and responsive.

The mastery tests presented immediate problems. Students were required to have passed these units by Easter (the first break in the semester), but it soon became clear that few students were going to pass all three by this time. Either the tests were too difficult or the students were not attending to the need to study for them. By week 4 many students were panicking, some students sitting the tests

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[40] The two members who had been reluctant to be involved in the first cycles had dropped out of the team by this cycle.

four times in each allotted hour. Tutors were seeing individual students regularly, but some did not have the skills to teach the tests adequately (this was especially the case for new tutors).

Another problem with the tests was that they needed someone with a strong grasp of punctuation and paragraphing to mark them, since there were many possible answers. It was not possible, especially for the punctuation tests, to write a marking guide that would cover all possibilities. Two people, including myself, were therefore required to mark over 200 scripts per week over each weekend.

By Easter over half the class had not passed all three units, and it was clearly not possible to fail half the class in a compulsory paper. We therefore analysed the tests along with the students' responses and identified two problems: some of the tests were too complex,[41] and many students lacked knowledge of test taking strategies. We then rewrote the tests, together with the support material, so that the level was more manageable, and ran a series of remedial workshops in the evenings to teach both the skills required and examination techniques. Within three weeks, all students who attended the remedial workshops had passed the new tests.

6.11 Reflection

The paper was evaluated as in previous cycles, through interviews with staff, focus groups with students, observation, and analysis of classes and materials. On the basis of this feedback, I wrote a report for the teaching group for reflection and discussion purposes. Two issues that arose in the interviews with staff were not included in the written report but were commented on during the

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[41] The paragraphing module was particularly difficult, and the support material was somewhat ambiguous.

oral presentation of the report: staff dissatisfaction with their role during this cycle and the changing nature of the group meetings.

While students' comments on the paper were far more positive than in previous cycles, staff seemed generally unhappy with their role, which they saw as much more circumscribed than before:

> I didn't enjoy it as much as last year...because we were always running. There was hardly any discussion with the group because they often had the new exercise for the tutorial, the things they had to go through here, so in all, I didn't feel that I contributed a lot to what they actually learned. They went through the seminars, they went to the library, they had a computer tutorial, they had the group work, so a lot of it was without a lot of input from me...if the pace had been more relaxed then we would have gone through an exercise, and we could have discussed what they learned, and given feedback, and often there wasn't time for that. I felt we were constantly running (27.6.95).

> I didn't enjoy teaching it. ...I always seemed to be one step behind. ...I just never felt in control. And I never felt I was teaching...most of the course was self-taught by the students, so [the paper coordinator] didn't achieve consistency between the tutors, well he did, because he took them out of the equation. They just weren't a part of the course any more. They were people who fronted up, gave out to the groaning masses more masses of paper, brought paper in and collected paper and marked it (4.7.95).

Dissatisfaction with the role of the tutors also related to the second concern: the changing nature of the teaching team. In 1994 the group meeting had been one hour long and all tutors were new to the task. The group meeting in cycle 3 was for half an hour (8.30am to 9.00am on Mondays). Staff were often late, and tutors with classes at 9.00am often had to leave early. The group, as mentioned before, was a mixture of new and experienced staff. One staff member expressed his dissatisfaction thus:

> Maybe last year we had a group that taught the paper. This year we certainly didn't have a group and so maybe I lost ownership of the paper. I mean the meetings, last year's meetings were times when we could go and say I did a useless job of this or this worked really well and we'd all get a lot out of it. That environment didn't exist this year. And neither was there much time given to it (4.7.95).

The main issues discussed at the end of cycle meeting are outlined below.

6.11.1 Content

The content of the paper in this cycle was more focused on an applied science context. Students commented, however, that they did not always perceive the significance of some of the assignments. There was still room to tie these more closely into the larger assignments. Students also once again expressed dissatisfaction with the 'English' component of the paper, but the delivery of this component in cycle 3 (i.e. through the mastery tests) did convince many that they were lacking some essential skills in this area and most acknowledged the need for competency in the mechanics of English language.

Students identified 'the writing process' as a major theme of the paper but not 'writing for an audience'. While some further work was therefore needed in consolidating these themes, the focus and the material of the paper were now more clearly defined towards the context of the degree.

6.11.2 Delivery

The paper content was again delivered in three ways: lectures, tutorials and study material.

Lectures were, once again, a cause for concern. There was general agreement among staff and students that lectures were not an effective mode of delivery and should not be retained. Instead, a study guide or workbook was proposed to structure and deliver the material. I suggested that lectures, if they were to be retained, should be a vehicle for supplementary material such as workshops on the mastery tests.

Students, as in previous cycles, perceived the tutorials as a major strength, speaking warmly of the relationships they had developed with their tutors. Staff, for their part, as we have seen, were less satisfied with their role. My comments on the tutorials were as follows:

> Tutorials were more structured and centrally governed in this cycle, making tutorials more uniform. Those who were involved in the gruelling tasks of preparing tutorial materials will understand the amount of work and effort that

was required to produce this standardisation. For new tutors, or for those who doubted their skills, this material was invaluable. However, for others it became a rigid structure that restricted their teaching opportunities. A number of tutors expressed dissatisfaction with their role this year, attributing this dissatisfaction to the amount of paper to be distributed and collected and the rigid structure of tutorials.

What is required is a balance between providing resource material for new staff and yet allowing experienced staff to approach material in their own way. One way of allowing tutors more flexibility would be to clarify the learning objectives of each tutorial, and supply resource material from a central source which tutors may opt to use or not. We need not conformity of structure and material but a focus on fulfilling and reaching the learning objectives of the tutorial (July, 1995).

Teaching materials included the Style Manual and handouts. The Style Manual was due for substantial revision and more integration into the paper (students still commented that they were more likely to be referred to the Style Manual in other papers than in this one). Handouts, while being a rich resource, were experienced as overwhelming, and might be more effectively placed in a study guide or workbook.

6.11.3 Assessment

In this cycle, students were assessed on only four tasks: the seminar, the research report, the journal and the exam. Other tasks (the mastery tests and the small assignments) were compulsory but did not carry an internal assessment mark.

The seminar was rated as valuable by staff and students. Students were allowed to choose their topic this semester, which staff perceived to have raised the standard of the exercise. The only issues of concern here were that students needed more feedback, and, if possible, two opportunities to speak in front of the class were seen as desirable.

Students were once again required to write a report on an allocated, rather than chosen, topic, but the report was still seen as a strength of the paper. I expressed concern about the quality of these assignments: many were not well crafted or proof-read. This may have been caused by the bottleneck of assignments due before exams, a lack of application of the writing process techniques, or a lack of

familiarity with the material and the writing styles and structures used in research writing.

The journal was viewed most positively in this cycle, and journals were fuller and more varied than in previous cycles. Despite this, the purpose and focus of the journal remained unclear both to the students and the staff, as evidenced by the fact that different tutorial groups produced quite different journal types.

The exam, a new feature in this cycle, may have added the benefits of requiring students to review the paper as whole and of checking that students were evaluated on the basis of their own work. Nevertheless, from a pedagogical perspective, the merits of evaluating students' communication skills under exam conditions were seen by the tutors as being at odds with the teaching of the writing process.

Mastery tests were positively evaluated by staff and students. While emphasising the stress caused by the tests, most students also discussed the positive value of confronting an unknown weakness in the tests. Thus, it was clear from the experience of this cycle that the material in the tests still needed to be actively taught: most students were unable to work through the test material on their own.

The purpose of the small assignments was not always clear and the added marking load increased the stress of students and staff. Students did not respond to the minimal marking procedure and so the assignments were not a forum of discussion and learning. I suggested in the report that these assignments should be linked to the larger assignments, such as the seminar or the report, or to a differently structured journal.

For example, if the assignments were linked to the report, they might include:
- a bibliography on the report topic
- an annotated bibliography on the topic
- a critical review of one article in the bibliography
- an outline or brainstorm on the topic

- a first draft

- a letter relating to the topic

Such a structure would make students' research skills more transparent, minimise plagiarism, and impart valuable research and analytical skills.

These suggestions for change should be balanced against the indications from the focus groups that students had become more positive and accepting of the paper over the three cycles. The paper had differentiated itself from a standard generic English paper and had demonstrated that communication skills can be taught effectively by discipline specific staff who are experts in the styles and genres of their discipline.

I ended the report with an afterword, which focused the group onto the subject of writing in the disciplines in its broader sense:

> While this paper has undoubted strengths and is an effective introduction to writing in an applied science context, nevertheless there are limits to what a 12 week paper can deliver. In any programme which includes a communication or writing paper there is a danger of staff within the wider programme expecting the communications paper to take responsibility for teaching all writing/communication skills – an unrealistic expectation since context and complexity require students constantly to acquire new writing and communication skills.
>
> The skills which students learn in this paper need to be reinforced and built upon in the rest of the Applied Science programme. The WAC initiative in the Department of Agricultural and Horticultural Systems Management and the writing to learn strategies used by the Hort Tech paper are both ways of extending and using communication skills effectively within the faculty. However, these initiative are confined to two departments within the faculty – other department are unaware, even, of the content of this paper and fail to reinforce the lessons we are leading our students towards.
>
> A final question, then. Is the role of the staff of this paper to communicate the contents of 19.155 to a wider faculty? And is it also our role to ensure that the teaching of writing skills (and the use of these skills as a mode of learning) is accepted as a broader and more integrated responsibility of the entire Applied Science programme? If these are our roles, how should we go about this process? (July, 1995).

My last official involvement in project one was the presenting of this report. My involvement did not cease altogether at this point, however. I attended several

other meetings to replan for the following semester. The paper coordinator and I rewrote the Style Manual for publication by the Dunmore Press as the set text *Writing guidelines for applied science students*. This was followed up by a postgraduate version of the Writing Guidelines *Writing guidelines for postgraduate science students*, co-authored by myself and two members of the teaching team and also published by Dunmore Press, in 1999.

There was also follow up on my afterword in a memo to the Dean asking that a writing consultant be appointed to the faculty to support and extend the WAC programme. An application was made for this position to the university's staffing committee, but was rejected.

Between 1997-98 I continued to provide workshops on mastery test skills, and maintained an informal working relationship with the paper coordinator and some members of the team, although I did not sustain a research role.

6.12 Key themes

Our aim, at the beginning of this project, was to produce a writing/communications paper that would be specifically designed to meet the writing and communications needs of applied science students, both in their time at university and in their careers. We started from scratch. Because no similar papers existed in New Zealand universities, we based our paper design and pedagogy on three things: one team member's experience of communication courses at a North American university, one team member's reading of the literature on teaching writing in the disciplines, and an assessment of the needs of our students based on an informal survey of the existing teaching and requirements of teachers in the Faculty of Agricultural and Horticultural Sciences at Massey University. At the same time, we decided to use action research in order to foster collaboration and to ensure that the skills of our team worked together in an effective interdisciplinary approach. The final section of this chapter looks at two issues: debates about curriculum design and pedagogy, and whether action research was an effective method of creating a collaborative team.

6.12.1 Writing themes

Curriculum issues

The first major debate was whether we should be teaching business writing or scientific writing. The debate arose because of the different traditions of the departments who primarily contributed to the teaching team. Members of the teaching team who came from the Department of Agricultural and Horticultural Systems Management, which taught extension, saw the role of the paper as being to focus on extension skills such as business writing and communication theory. Members of the team from the Department of Plant Science, while appreciating the need for business writing, preferred to emphasise the need for research skills and research writing. Students, on the whole, emphasised what they saw as the need for practical skills: more oral communication, CVs, business letters and so on. What this debate emphasises, I believe, is the complex nature of the discipline(s) of applied science. Most of the students would find employment in jobs that required business skills, yet their years at university would require them to learn scientific research and recording skills. By the end of three cycles, the paper incorporated both types of skills and themes. Business skills such as memo and letter writing and seminar presentation were complemented with the research skills of information acquisition, referencing and research report writing.

A further debate was the conflict over whether to teach directly what might be called generic or technical writing skills, such as punctuation and paragraphing. Again, the team was split between the departments represented, with one favouring the direct teaching of these skills and the other preferring to focus on communication theory and allowing generic skills to be taught incidentally, or in context.[42] At first generic skills were largely incorporated indirectly, with only one tutorial dedicated to these skills (the English and science tutorial). This was in keeping with our contention that our paper would be an applied science writing paper, designed to teach the conventions of applied science writing, rather than a generic writing paper. However, problems arose with this approach. Some students' writing skills were very poor to the point where they required

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[42] At one stage, during a staff interview, the interviewee leaned into the microphone and shouted *"No punctuation!!"*

direct teaching of the conventions of English grammar. Furthermore, some of the teaching staff had a poor grasp of grammar themselves, and few, if any, were equipped to articulate and teach these conventions. We had a dilemma, then: how to teach these skills to those who needed it, while not wasting the time of the competent writers, and how to teach such skills with staff who were ill-equipped to do so? At the end of the first two cycles we had made the decision to teach generic writing skills directly, through the mastery tests, which allowed students to work at their own pace, and for all the teaching of generic writing skills to be placed in the hands of myself, a writing teacher.

Another debate concerned whether we should focus solely on skills or incorporate themes or models on which to develop skills. The paper began by teaching skills in isolation, but changed over time, under the influence of the teacher of extension, to include a model of communication and the themes of writing for an audience and the writing process.

A further theme that was included after the first cycle was the relevance of writing and communication to students in the applied science disciplines. We had not expected this to be as major an issue as it turned out to be, but students in all the focus groups emphasised it, right into the third cycle. After the first cycle, we incorporated the relevance of the subject in everything we taught, giving prominence where possible to the context of the applied sciences and including professional relevance as a theme in the first lecture. We also invited people from related industries to talk to the students about how they saw communication as important to the people they employed. By the end of the third cycle, students were beginning to see the relevance of the paper and its benefits:

> C: It was one of the things that put me off at the beginning, having to do communication – and I always hated it at school. And I thought I'd got away from all that. But it's important, it's relevant to the future – you've got to be able to write reports and that sort of thing, even if you don't enjoy it.

> B: It's like a refresher course. Cos, like at school last year, I didn't have to write anything and suddenly I had to write an essay and it was good having something there to look at.

> F: I started off doing it under sufferance because I had to, because I was changing over [to the new degree] and I really wasn't looking forward to it. But I've found

it quite good – I'd say it's lifted the overall standard of my writing – made me more aware – of making sure the reports were done properly – it makes you more conscious.

A: I think – I've gone from shocking to maybe average – I've quite enjoyed *it* – it's given me a way to go about doing things – I'm a lot better now (Comments from focus group interviews, May 1995).

Winning the students over to the relevance of the paper may have been a major factor in the greater success of the paper in later cycles – or maybe the strong resistance of the students towards the paper in the first semester made us reassess our teaching strategies and the curriculum to make it relevant and therefore more credible to the students.

Pedagogical issues

A number of pedagogical issues were debated and experimented with throughout the three cycles. These main debates are summarised here.

The first issue concerned mode of delivery. The paper used a form of delivery of one one-hour lecture and a two-hour workshop or tutorial. Both forms were, in a sense, unfamiliar to the teaching team. The lecture was much larger than most of the staff had previously experienced[43] and therefore required quite new presentation skills.

Whether it is appropriate to include lectures in writing or communication papers is a debatable point. In business communication papers, they are quite standard, but in writing papers they are not so common. Massey University's Written Communication paper initially included a lecture but dropped it early in the paper's evolution. The courses at Waikato and Victoria Universities did not include lectures, but the paper at Auckland University did. The lectures for 19.155 presented difficulties from the beginning. In the early lectures in the first cycle classes were very disruptive and unruly.[44] After week 4, lecture attendance dropped sharply and remained low throughout the remainder of the cycle (for

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[43] Although the total number of students enrolled in the Faculty might be high, the papers taught by the faculty were very fragmented into specialist areas; this meant that most classes did not exceed around 40 students.
[44] See p.149

two classes, only 12 students attended). In cycle 2, students in lectures were not disruptive, but numbers attending dropped in week 5 and did not recover (one lecture had only four students attending). In cycle 3, the paper coordinator introduced the exam, largely as a way of requiring students to attend lectures. But while the huge drop did not occur, only 40% of students, on average, attended the lecture. A question that arose, therefore, was whether this style of teaching was appropriate to a paper in communications.

Tutorials, as noted earlier, were also a new approach to teaching for some staff. At the beginning, staff were concerned about running tutorials and using exercises in class (including designing exercises for classes, at times). Feedback on tutorials was coordinated through tutorial feedback forms, which were filled out by tutors at the end of each session. Despite staff apprehension, in the first and second cycles, tutors reported high satisfaction rates with their role as tutor. As stated before, the group meetings were important to the success of the tutorials, since it was during this time that staff could troubleshoot problems concerning running tutorials or using particular materials. Student attendance remained very high, and during focus group interviews, students spoke positively of the tutorial and the relationships they had established with their tutors. In cycle 3, where there was a change in the structure and uniformity of tutorials, staff disliked the tutorials but the students still reported favourably on tutorials and the tutors.

Methods of assessing students were also a matter of concern. Particularly at issue were the following assessment tools:

- the journal
- the seminar
- the report
- the exam
- mastery tests

The journal evolved from our reading on writing to learn techniques and our concern to overcome anxieties about writing. On the whole, the paper took a 'learning to write' approach, since its objectives were to teach writing skills pertinent to applied science students, but we aimed also to have our students 'learning through writing' and the journal was a way of doing this.

In the first cycle students were simply asked to write a journal. They were given a few specific things to write about, but generally they were left to work out what they wanted to do. This approach was not successful in achieving its aims. Students tended to write their journals all in one or two sittings at the end of the paper and many wrote the equivalent of a diary, without reflective entries. In the second and third cycles, we aimed to model the writing required by starting with specific entries, modelled on those by Bean and Rummage (1986), and then moving into less directed writing. We also made a more concerted effort to 'sell' the journal; we looked at applications of journal writing to the rural sector, emphasising written records kept by farmers, spray diaries etc. Specifically we emphasised what we hoped students would gain from their journals i.e., the ability to reflect on their own learning and track their learning, as well as discovering new ideas through the writing process. This commitment by the tutors and the change of emphasis did seem to have an impact on student work, and tutors reported that the journals improved each subsequent semester.

Students and staff, but particularly students, rated the seminar very highly, although the journals often testified to the amount of anxiety associated with it. A common comment was this one:

> I think the seminars were really good cos there's lots of jobs out there where you've got to be able to do that – and more stuff, like being able to talk to lots of different kinds of people. Maybe we should be doing more stuff like that – like doing discussions and interviewing – but mainly just talking to people who are different to you. I think that's important. For me, for some of us anyway (Focus group. October, 1994).

The report was also rated as important, in terms of being relevant to future careers. In particular, students commented on the relevance of learning the correct formatting of reports and of doing library research. The reports were

commented on by tutors as being of a higher quality when students were able to choose a topic that was of interest to them, rather than being allocated a topic at random.

The exam was a contentious issue, with students and tutors alike commenting that it seemed contradictory to use an exam to test writing skills when exam conditions did not allow students to use the process that they had been taught. After the one experiment with the exam, it was dropped and the paper returned to 100% internal assessment.

The mastery tests were another contentious issue. Despite the administrative problems associated with these tests, they do seem to have succeeded in achieving their objectives.[45] Students experienced them as very stressful, but in the focus group interviews almost all students commented on these tests as being valuable, as having confronted them with their limited skills, and as having forced them to learn skills they didn't find interesting but did see as valuable.

Political issues

Two political issues affected the running of the paper: the issue of control and hence of funding, and the issue of using a core paper as a 'feeder' into a particular endorsement.

After the first paper coordinator retired, a territorial conflict over the paper ensued, lasting for almost two semesters. The first paper coordinator was from the Department of Agricultural and Horticultural Systems Management and, on his retirement, the department wished to retain control of the paper. This was a funding issue: while the EFTS earned by the paper were allocated accorded to tutors, the paper coordinator was given an extra percentage of the EFTS. Since EFTS were one of the major funding bases of departments at this time, this was a significant matter for both departments. The debate was not conducted, however, about funding. Rather, it was argued over two issues: the curriculum (and in particular the debate about business vs. science writing) and whether someone

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[45] See p.163

with English as a second language could teach a course on communication (since the only person from the Department of Agricultural and Horticultural Systems Management who could take on coordinating the paper was the new extension lecturer from Holland).

The second issue was also related to funding, but more indirectly. The Head of the Department of Agricultural and Horticultural Systems Management (the department in which the paper was originally domiciled) hoped to use the paper as a 'feeder' into second year papers and beyond. He originally wished the paper to be called 'Agricultural Extension 1' for this reason. Others involved from other departments opposed this on the grounds that compulsory core papers could not be used as feeders for specific endorsements and that they were not prepared to be involved in a paper which was conducted for this purpose. During the second cycle, he proposed that an extension paper from his department (taught by the new lecturer) be an approved alternative to 19.155, on the grounds that students who were competent writers (i.e., competent in generic skills) did not need the 'upskilling' taught in 19.155, that such students found the compulsion to take 19.155 demeaning, and that the proposed alternative would be "more challenging, appropriate and employer/career orientated than 19.155" (W. Parker, pers. comm. 29.9.99). This proposal was strongly opposed by the acting paper coordinator on the grounds that 19.155 was designed to do more than upskill students in generic writing skills and that students who had passed bursary English often did not do well in 19.155, pointing to the fact that a pass in bursary English was not a good indicator of ability to use the conventions of academic and/or applied science writing. The Dean upheld his opposition.

These issues are important as they adversely affected the smooth running of the team; also, arguments about funding can rarely be addressed directly, but have to be channelled into other debates. This, as we have seen, was the case in the development of 19.155. Debates about the curriculum might not have been so heated, had a debate about territory and funding not been a key motivator.

Conclusions about writing themes

Our aim, then, was to produce a writing/communications paper that would be suited to the needs of our applied science students. We found that the grounds on which we initially devised our paper, while useful, required considerable fine-tuning over the three semester cycles. We needed to monitor the stylistic requirements of the discipline, consider more carefully the extent to which 'generic elements' should be included in the paper, look at using key themes to integrate the skills students needed, and convince students of the relevance of communication to their discipline and their futures. Our teaching strategies also needed to be adjusted – both our methods of delivery and our evaluation methods. Further, we needed to be aware of the impact of political issues on paper design and on team development. In other words, as Sue McLeod and other writers emphasise, we needed to be sensitive to the needs of *our* students, *our* context, and *our* environment. It was not possible to simply transfer methodologies to another context. By a process of constant monitoring and evaluation (observation and reflection) we were able to produce a paper that was sensitive and relevant to these needs.

The way in which we achieved this monitoring and evaluating was through the use of action research. This methodology provided us with a structure and process through which to coordinate our group and stay close to the pulse of student and staff perceptions. Action research is the focus of the following sections.

6.12.2 Action research

Team issues

As we have seen, the decision to use action research as a methodology was primarily to produce an effective collaborative team out of the disparate group which came together to teach the paper. The team for project one was not static but changed throughout the three cycles, as required by the organisational context.

The team composition in the first cycle was the most democratic – basically because no one was confident about what they were doing! While the paper coordinator was enthusiastic and had, perhaps, most experience of communication courses in the sciences, he was somewhat disorganised and very willing to share decision making with the group. I, too, while experienced in teaching writing, had no experience in designing and delivering a full credit paper to a large class and was willing to defer to the expertise of the group in matters pertaining to writing style and structure. There was a sense of all being in the same boat, and having chosen to be in the same boat, since most were volunteers.

Team meetings, as stated before, were very valuable times. During this cycle there was little established uniformity between tutorials, with tutors designing their own material based on discussion during group meetings. Meetings were often heated, even confrontational, with different group members taking on particular task and maintenance roles over the cycle within the team. In a sense the level of task difficulty made the group most cohesive, as did the sense of no one being the 'expert'. I experienced this particular group as very rewarding to work within and this cycle as particularly creative, a perception confirmed by other members of the team.

The addition, in later cycles, of new group members presented difficulties in the team and a change in group dynamics. Inevitably the group divided into those with experience and those without, into those who chose to be teaching the paper and those who had been nominated by their department heads. This latter point was problematic in a number of ways, not least of which was that those who had been nominated tended to be least confident of their ability to teach the paper – and, indeed, there were two members of the later cycles whose writing skills were poor.

A consequence of this lack of skill and confidence was that the new paper coordinator decided to produce detailed lesson plans that became compulsory for all tutorial groups. This was a matter of reassurance for new team members, but it may have prevented them from discovering a sense of ownership or gaining an

increased sense of their own ability. It also alienated the established group members who preferred to teach their own material.

A related issue was that of leadership. As stated before, the first paper coordinator was not highly organised and as a consequence the teaching team took on a lot of responsibility for creating the curriculum, teaching the paper, and designing material. The later paper coordinator was far more organised and took over the bulk of responsibility for all these tasks. The consequence was a further loss of ownership for the team.

This suggests that in an organisational context where a leader has to be appointed, the impact of leadership style on group dynamics and ownership may influence the development of an action research project. A more proactive style will provide reassurance for weaker members of the group but may inhibit the more confident members of a team and may prevent commitment and ownership in both the weaker and stronger group members.

What we see, then, in this project is a move from a highly democratic team, with a high level of ownership and commitment, to a team which was more directed by its leader and with a correspondingly lower level of ownership and commitment. This change appeared to have been caused by the changing nature of the team and the change in leadership.

My role

My role in the project was consistent with that of a researcher in an action research team. I was supportive of the team, a collaborator rather than a leader, sharing responsibility for the process with other members of the team. I acted as a resource person to the paper coordinators, attended all group meetings and lectures, designed material in conjunction with others, undertook or collated all observation methods and ran the reflection meetings. In later cycles I took on a teaching role in running workshops on the mastery tests – and my production of the Style Manual might also be seen as a teaching role.

There were some difficulties associated with my participant-researcher role. As I had no leadership or authoritative role, there were problems with people not completing observation tasks (such as the tutorial assessment forms) and my having no authority to insist that they did.

A related issue was the conflicting interests of the paper coordinator and the researcher. Although there was an agreement that decision making would be group-based, as required by the research, at times the paper coordinator made decisions without consulting either myself or the rest of the team – and, in fact, made one decision which ran counter to the wishes of the rest of the team and recommendations from the focus group. At first I considered this to be undermining our intention to run the paper as an action research project. However, my viewpoint changed over time for two reasons. First, I saw that action research, because it occurs in the real context, has to allow for the realities of the situation. In the university structure in which I was engaged, paper coordinators are accustomed to making decisions about the structure and delivery of their papers without discussion with others. Both paper coordinators were working, therefore, in a very different mode to the one they were accustomed to. For this reason, it was therefore, perhaps, unrealistic to expect that they would be able to work in this new way without occasional reversion to the familiar role. Second, the situation seemed to be self-correcting. In one instance, when the paper coordinator made an executive decision in the face of his team's advice, the decision proved to be a poor one and at the end of the cycle the decision was reversed. In the other situations where the paper coordinator did not consult at all the decision was assessed, after it had been implemented in a single cycle, and then either absorbed into the project (with the team's support) or rejected. In other words, arbitrary decisions were assessed by the team with the same rigour and treated in the same way as other decisions.

Practical difficulties were also associated with my participative-researcher role. An example was how to take a fully participative role in group discussions and at the same time record meetings. There were times when my own passion for whatever was being discussed took precedence over my role as record-keeper!

Perhaps my biggest difficulty was in dealing with two incidents where I was questioned about the authenticity of my role in the team. One member of the team (who joined in the second cycle, having been volunteered for the work by his Head of Department, and who lacked confidence in this new role, stating that he was not a confident writer himself), when being interviewed as part of the project, asked whether my work was for myself or if I was reporting to someone else. He also, in a group meeting, took exception to my taking notes for the same reasons.

Having one's motivation questioned is not an unusual event in the complex and difficult task of conducting fieldwork (see, for example, Howell, 1990 or Brettell, 1993). These incidents did seem to be isolated to the individual and not characteristic of the nature of the group or my role in it. Nevertheless, such incidents may be significant if they reflect on the researcher's behaviour or illuminate some aspect of the context in which the project took place. For this reason, these incidents will be analysed in more depth in chapter nine.

On the whole, my aim with this group was to be an equal, if somewhat different, participant, to do what jobs were asked of me, and to volunteer information and approaches, without allowing my opinions to dominate. After a short time, I felt comfortable with the team and my role within it. I learnt a lot. After two cycles, I was able to look at sections I had written for the Style Manual and critique their limitations in relation to the discipline that they were written for. I had gained some understanding of the different genres of writing in applied science and the different process of writing for applied science – for example, I appreciated that data gathering in this field might include interviewing a farmer or grower, rather than just researching in the library. I could certainly understand more fully why the writing paper the horticulture students had been compelled to take prior to my involvement had been of only limited value to them. I had faced some of my limitations as a teacher of writing and learnt to recognise some of the stereotypes and prejudices I had brought with me to 'the other side of the campus'. Bunning (1994), citing Winter (1989), writes:

> We [action researchers] are not consultants, advising others how to change, nor unchanging catalysts of others' development. We are part of the situation undergoing change, because we want to learn. The only viewpoints we want to support are those which have newly emerged in the course of our fieldwork; those we started out with we wish to transcend (p.9).

This was certainly the case for me in project one. I joined the team aware of many of my limitations, such as knowing I was not an expert in writing for science. But I was unaware of others – for example, I was not aware of my lack of knowledge of how the writing process differs for students in the sciences compared to those in humanities. The action research approach to the project gave me the opportunity to grow and learn, as well as to support others through my knowledge and skills.

Conclusions about action research

Action research proved useful in this project as a way of developing an approach to teaching writing in the applied sciences.

First, it provided a structure in which to implement and assess a new programme. It fitted well with the semester system in which the university operated. It required us to go through a rigorous reconnaissance, implementation and evaluation system. It required us to collect data on the perspectives of all involved and to consider change in a reflective and informed manner.

Second, it was effective in bringing a disparate team together, with different skills and attitudes, and limited experience of a professional relationship. There were difficulties associated with leadership usurping the democratic approach, and with new (and sometimes reluctant) members joining the established group. But at the beginning at least, the potentially most difficult time, this methodology was effective in bringing the group together and giving team members a structure within which to work.

Third, it was effective in giving group members a sense of ownership over the paper. This was especially so at the beginning, when group members were least confident of their skills and so compelled to negotiate curriculum and teaching

strategies. The diverse nature of the group also helped to produce confidence. Group members seemed more confident because they had a writing teacher and researcher working with them, and I felt more confident because I was working with a group of people who were experienced teachers of their discipline and experienced users of the genres we were teaching.

Fourth, the approach compelled us to be student-centred and context-centred in the fullest sense. While student feedback was introduced into the university at the time these projects were being undertaken, the feedback elicited was limited to survey answers and rich detail was not available. Because of these constraints, this feedback had limited capacity to influence paper design. By requiring a full student-feedback system, action research required us to take students' responses into account and to modify the paper as a consequence.

6.13 Conclusions

This chapter has described the development of a communications in applied science paper, using action research. If we return to our key research question – how can we effectively teach writing in the disciplines – this was the first step. Establishing a core paper that focused on communication was the basis on which to develop a broader WAC programme (i.e., projects two and three). The project clearly showed that the combined expertise of academic staff in the disciplines and a writing consultant could produce a paper that was relevant to student needs – although the process was not without its difficulties. Here action research was a critical factor. As we have seen, action research proved successful in many ways, both in developing the team and in allowing us to refine our teaching in the light of our particular context. Most importantly of all, it also gave us a structure on which to evaluate and revise our curriculum and delivery. Without this iterative process, we would have struggled to develop our ideas and cope with student resistance.

The next chapter considers a more complex project that built on project one by incorporating the teaching of writing into a series of content papers, again using action research. The results, as we will see, were rather different.

Chapter 7. Project Two: Teaching writing within a departmental programme.

You see, with writing, it is terribly important that you're not turning out something off a machine bench. The whole point about writing is…that you must not destroy that originality…you want to see that they can really see (Staff member, Department of Agricultural and Horticultural Systems Management, 28.10.93).

Project two took place within the Department of Agricultural and Horticultural Systems Management. Like project one, this project had a 'learning to write' objective and pedagogy but its focus extended more broadly to a range of papers offered by a particular department.[46] Project two was seen as building on the base of project one, integrating and extending the skills taught in project one into subject-specific papers. Where the communications paper of project one taught students basic communication skills within an applied science context, project two was the next step, asking students to apply those skills within the broader context of their applied science curriculum.

The project group comprised myself, in the role of writing consultant and researcher, and, ostensibly, the entire department. In reality, as further description of the project will show, not all members of the department took an active part in the implementation of the programme, although all were involved in the planning process. Furthermore, because of the structure of the papers offered by the department, faculty members from outside the department became part of the team in an operational capacity. While such a project team might be expected to be the most cohesive of the teams in this study, in that one would expect the group to be familiar with one another, to have established roles, and to have experience teaching together, a history of the department shows that any cohesion could not be assumed (see chapter two).

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[46] Originally, the plan was to include all the papers from the Department, but in the end the choice to join the project was voluntary, so only a small number of papers was included.

7.1 The origins of the project

This writing project, unlike the other two, did not emerge primarily out of the needs and interests of the research group. Its origins were two-fold. First, because of the positioning of the communications paper in the department, and because it taught extension, the department saw itself as taking responsibility for the teaching of communication generally within the faculty. Given this sense of responsibility, the group was open to the second influencing factor, which was my research interests as a writing consultant. Following discussion with the HOD and other members of the department, I presented a seminar to the department in October 1993 on different approaches to teaching writing in a tertiary context.[47] There I argued that a single 12 point paper at 100 level could not be expected to equip students with the skills they needed for all of their years of study and that an integrated writing in the disciplines approach was needed to reinforce and develop the skills initiated in the communications paper. Following this seminar, I presented a further seminar on action research as the methodology that would most effectively allow the department to develop and implement a writing in the disciplines strategy within its own curriculum.

The department decided there was enough interest in the topic to warrant me presenting them with a definite research proposal. Subsequently, they agreed to take up the proposal and develop their own writing programme for two years in conjunction with me as writing consultant/researcher. We can see here a significant difference between this project and projects one and three: the other projects were initiated by the project team. This project was initiated by the researcher and agreed to by the team.

7.2 The research team

The research team, then, ostensibly comprised eleven academic staff and myself. Of the academic staff, only one was a woman. The department was almost

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[47] For a timeline of the project, see Appendix 11.

evenly split between senior staff, close to retirement, and young staff in their mid to late thirties in less senior positions (most of whom were engaged in doctoral research and had come through the faculty as students). A significant feature of the department was that the HOD came from a different academic tradition (animal science, which is primarily a quantitative discipline) from most of the other staff in the department, who largely came from more integrative, qualitative disciplines. As might be suspected from these immediate factors and the history of the department, the group was not marked by a high level of internal unity or unity of direction in relation to its operations and its curriculum.

All the same, during interviews conducted in late 1993, members of the group did present a reasonably unified image in terms of their attitudes to and experience with writing and teaching. With the exception of the HOD and one other senior member of the department, members of the group did not consider themselves to be prolific writers. When asked what types of writing they did, most (again, with the exception of the HOD and the other senior staff member) identified writing teaching materials as their most common writing task (two other group members mentioned their PhDs). Only one member of staff considered himself to be an above average writer, although three commented that, while they were not confident academic or scientific writers, they felt comfortable producing business style genres. Most stated cautiously that they enjoyed writing at times but all agreed that it was not an easy process for them. This issue of enjoyment often drew quite contradictory responses:

> I have very negative feelings about writing. English was almost my worst subject at school. I was more strongly maths, science sort of stuff but I think that's pretty typical (28.10.93).

> I hate it. ...It doesn't come naturally and it's hard work and I think if you know that it doesn't come naturally, well for me it doesn't come naturally and I know it's hard work but I enjoy writing and at the end of the day I can write I guess about four pages of A4 text in a day. ...You can't sort of think idly "I'll write". It doesn't work like that. It's not fun but the end result – absolutely (26.10.93).

Most staff found writing as students at school and university difficult, though several mentioned the positive influence of a graduate supervisor as a major influence in developing a 'better' writing style.

Most staff showed in their responses that, whether they were aware of it or not, they were already teaching writing, and, interestingly, they seemed to be able to do this from positions of confidence and lack of confidence:

> In most of the courses that I have run over the last few years I spend 3 or 4 lectures just talking about writing reports, how to structure a report. I like the fact that for most people writing isn't something that's natural so you have to work at it but there are simple rules if you like that you can follow that will help. ...I think one of the things I've noticed about students, a lot of them expect to write one copy, that's it. ...Whereas people who are good writers...do a quick draft, they make some changes, they make some more changes, they might do that 4 or 5 times. ...That means you have to plan your time to allow that opportunity to occur (26.10.93).

> The diploma students, they hate writing. When I tell them they're going to have to write a description of something they say "Oooh we can't do that, we've got horrible handwriting" and I show them my overheads that are handwritten and they say "Oooh that's horrible too" so they have some sympathy and I say well I do rely on my computer so that they look neat and tidy and I say my spelling is not the best but I have a dictionary in my office...so I approach them...as a colleague (28.10.93).

Without exception, staff said that they did not feel very confident teaching writing, but two thirds of the group conceded that, although they did not want to teach writing, it was, unfortunately, part of their job as university teachers: the third who did not agree with this were very vociferous on the topic.

One of the major concerns of those who did (reluctantly) consider teaching writing to be part of their job was the lack of consistency of approach to writing, and a feeling that they would not be supported in attempts to teach and reward high standards of writing. There *was* inconsistency: all staff in the group agreed that students needed to write well if they were going to be successful professionals, but only two thirds of the group were prepared to attempt to teach or evaluate writing skills. And staff in the department considered that in other departments in the faculty writing skills were not highly valued at all.

When I entered into discussion with the individuals in the group about the action needed to address writing skills, there was a general consensus that if writing was going to become recognised as part of the curriculum and included as part of the criteria for marking, then the responsibility for this had to be broader than

individual academic staff members. Several staff discussed the option of taking departmental action, but the majority thought that the issue should be faculty wide. Otherwise, a danger was perceived that if standards were higher and therefore harder in the department's papers, then student numbers, and hence funding, might fall.

Another common thread in the discussions was the need for outside help designing the approach to be taken. The following is a typical response to the question of what was needed if a writing programme were to be implemented in the department:

> I'm sure we couldn't do it on our own. None of us feel that well versed in writing, in English, whatever it is. Some people are quite good and efficient at doing some things and know exactly how that ought to be but I still think there's room for discussion and we probably need facilitation and some kind of expert, some kind of consultant...and then the result of that should be something that's written down in reasonably hard format (27.10.93).

The notion that a consultant was needed recurred during the interviews. And yet, despite this felt need for support, I noted that many staff had very detailed ideas about how a prospective writing programme might run, what sorts of skills needed to be taught, and how students might be taught those skills. During interviews, staff confidently discussed ways of attending to the teaching of sentence structure and paragraphing, and how to introduce different genres of writing such as farm reports and business reports.

It was on the basis of analysis of these interviews and scrutiny of the materials given by this group to their students that I determined my role within the group. I perceived a high level of expertise within the group, but also a lack of confidence and cohesion, and, ironically, communication. Agreement and a "reasonably hard format" i.e. written documentation of a writing strategy which could be supported by all, and which could be used to demand support and backup from other members of the group, seemed essential. I therefore assumed the role, as appropriate to action research, of facilitator, or, more accurately, catalyst, initially taking a very 'hands-off' approach to working with the group, merely attempting to allow them the opportunity to develop a strategy and writing

programme within their existing curriculum. My concern was to support the concept of the content teachers being the experts in the styles and genres of their subject and of staff taking ownership of the project. The department supported the role I assumed and, as far as possible, allowed me to become an 'insider' within the group. I was given an office within the department, was invited to social events and took on teaching tasks in the department such as running postgraduate workshops on action research, analysing qualitative data and teaching undergraduate classes on writing issues such as essay writing.

7.3 Planning

By mid November 1993, the proposal had been accepted, and I had conducted the first interviews and collected assignment instructions distributed by individual members of the department as part of my reconnaissance. The next stage was a full department meeting to identify objectives for the writing project.

In preparation for the departmental meeting in November, I produced a summary of the results of the interviews, which I distributed to all staff members. The document was intended to promote discussion and the sharing of ideas among departmental members prior to the meeting. This document is summarised here, to enable the reader to see the connection between the ideas from the interviews and the final objectives produced for the writing programme.[48]

Staff identified the following writing problems in students' work:
- grammar, poor sentence construction
- spelling, particularly of specialist technical terms
- poor paragraphing
- limited vocabulary, both general and technical
- inability to reference correctly
- plagiarism
- wordiness
- inability to connect sentences in a logical format then build an argument
- inability to explain the implications of data and results
- lack of planning

[48] Key sections of the project planning documents are presented in this section. To distinguish these key sections as coming from specific documents, they are shaded.

- inability to structure larger assignments
- lack of confidence
- failure to focus on the reader's (client's) needs

In interviews, staff were asked to rank the following reasons for requiring students to write assignments:

- for evaluation purposes
- to learn vocational skills
- to enhance students' learning of content material

All staff prioritised the third reason when asked this question directly, whereas in free discussion most of them focused primarily on the second reason.

A wide variety of marking systems was used in the department. These included:

- marking schedules (both seen and unseen by students prior to writing)
- group conferences
- impression marking
- combination of the above

In relation to taking writing into account when allocating grades or marks, there was an equal division of staff into three approaches:

- some staff allocated marks to presentation on a marking schedule. Poor writing skills led to marks not being allocated.
- impression markers may have deducted marks for poor writing but with no allocation of a certain percentage to presentation.
- some staff either indicated poor writing but deducted no marks, or did not indicate poor writing and did not deduct marks.

Students were often not told beforehand whether writing issues were important in affecting their grade, and may not have been aware of each lecturer's approach. Clear and consistent messages were not being given to students.

Most staff did not make any assignments retrievable (one person made just the first assignment of each of his courses retrievable), largely because of workload concerns.

Most staff wished that teaching writing were not a part of their job and felt ill equipped for such a role. Although many felt, reluctantly, that they did have some role to play, the extent of that commitment was neither consistent nor clearly defined.

Despite this reluctance and lack of confidence, most staff gave their students very detailed and specific advice on how to write assignments, both written and verbal. Three concerns arose:

- much of the material was inconsistent in terms of both style and structure.
- staff were using material which was not consistent with the context, e.g. several people were using a handout on scientific report writing to assist students writing a business report. This may have been confusing to students when the directions did not suit the context.
- there was no single reference point for students (e.g. a writing manual).

7.3.1 Objectives

Staff during interviews proposed the following objectives. It should be noted that these suggestions are not ordered thematically, but presented in the order in which they arose from the interviews.

Students should be able to:
- write a letter to a business client
- edit their work to reach a professional context
- use technical terms confidently and correctly
- structure a report to a client, including identifying objectives, audience and appropriate structure

- write in a way that is professionally credible
- write a descriptive farm report
- write in paragraphs
- construct readable, well presented documents
- reference correctly
- identify the structure and content required in an assignment
- make appropriate choices about how to manage data and how to analyse, discuss and present results and opinions
- at 100 level – spell, write in sentences and paragraphs; at 200 level – critically assess data and materials, use and acknowledge sources; at 300 level– present a flowing argument/discussion. In other words, have a continuum of expectations so that, for example, spelling and punctuation are no longer problems at 200 and 300 level
- write in a way that is correct and concise and has high impact

The following comments were made by staff concerning possible strategies for achieving objectives. These, again, are edited for readability only and presented in the order in which they arose during interviews:

- "Focus all projects on 'real world' examples with a 'real' client."
- "Writing has to be coordinated across the degree. We need to set up expectations in year 1 with a block of material that lays out our expectations followed by across-the-board input to achieve results."
- "Review internal assessment strategies (which put too much pressure on students). Establish standards of writing or presentation (and, perhaps, project evaluations) across all courses."
- "I think it would be good if the staff were consistent in their approach to assessing writing".
- "If outside markers are used, their standards and attitudes must be brought in line with the rest of the department, and there should be some system whereby permanent staff are alerted to students showing up with really poor writing skills".
- "I think the department would have to spend considerable time on getting clear its own ideas as to what should be in these reports...I think it would be necessary to send around a marking schedule or some sort of guideline so that all of us are marking to the same standard. I think one of the problems everyone tends to have is whether to specify things fully or have fairly open ended assignments. Too much detailed direction would destroy all creativity."
- "We need courses for staff on how to teach and mark and who to send to remedial classes."
- "Perhaps a manual would help although it would be useless unless students are made to use it; they don't read it if they don't have to – you've got to set them something to do which requires them to use the manual."
- "Consistency across the faculty is needed."
- "We need a model to demonstrate standards, to show what excellence means. We should be clear so we do have to talk about what is important and establish some criteria which are written down in hard format."
- "At 100 level English should be separated from content and marked independently and students must pass the English section to pass the course. Students should be given clear objectives in relation to communication at the beginning of each course."
- "First assignments of every course that do not meet a certain standard of English should be handed back unmarked for rewriting, with no penalty, just a requirement

to rewrite. This would send a clear message to students of the importance of communication."

- "We have to be committed to putting energy into prioritising communication and our work in this area has to be acknowledged as part of staff appraisal. Recognition is important."
- "We should explore the possibility of writing workshops for staff."

Clearly a range of ideas was being presented in this early stage. These ideas were collated from the interviews and summarised for staff consideration.

7.3.2 Planning for action

All staff were given this summary of the interviews prior to the meeting, plus background discussion documents on teaching writing. Included with this material was a covering memo asking staff to read the enclosed material, review present practices for setting, marking and giving feedback on assignments, and consider how the list of objectives and strategies might be extended. The purpose of the meeting/workshop was stated as "to design clear, practical objectives and strategies for the department in terms of implementing writing policies within our courses".

The staff meeting that included the workshop on writing objectives and strategy took place on 19.11.93 and involved group and individual work. At the end of two hours, the group had identified its objectives for the writing programme as follows.

General Objective

A student completing papers taught within the department would be able to construct readable, well-presented documents appropriate to audience needs.

Specific objectives

Students would learn to:

- Structure the following types of documents
  - a letter to a business client
  - a report to a client
  - a descriptive farm report
- Use technical terminology confidently and correctly
- Reference correctly (using APA style guide as set out in the faculty manual)

- Edit their work to reach a professional standard (which includes correct spelling, sentence structure and paragraphing techniques)
- Make appropriate choices about how to manage data and how to analyse, discuss and present results and opinions in the light of audience needs.

Insufficient time meant it was not possible to work through strategies in this workshop. However, different members of staff were allocated various tasks such as preparing a shared marking schedule and writing sections of the proposed Style Manual (in conjunction with the planning for project one). A small group was set up to further develop strategies to be finalised in early 1994.

A document was sent out to all staff in the department, summarising progress to date and identifying tasks. My role was also established here:

> Lisa Emerson is available in 1994 and 1995 as a resource person during the planning of courses and assignments. The extent of her involvement in your course(s) is entirely the decision of each paper coordinator. Staff are, however, encouraged to design assignments and course assessment in the light of the general and specific objectives, in conjunction with Lisa, as part of the [writing project] process (30.11.93).

The above statement is significant in that it sets up the process as voluntary. Further issues were identified in a departmental memo for future consideration and discussion:

- should (any) assignments be retrievable?

- how can we best signal to students that professional writing standards are essential? (Or are we prepared to fail students on this basis?)

- should we distinguish between 100, 200 and 300 level writing requirements?

- how can we best evaluate our writing programme?

Over the summer period the small group working on strategy met several times to develop their brief. The group comprised four members: the writing consultant, the paper coordinator of 19.155 and extension lecturer, and two members of the department who expressed special interest in the project (one of whom was a senior member of the group, close to retirement, and the other a younger staff member engaged in doctoral research).

Four key strategies were identified.

- the Faculty Style Manual. This would be required reading for all students and staff in the department and would establish the written style and structure of written assignments in the department.
- the Department would adopt APA referencing conventions and these would be outlined and modelled in the Style Manual.
- the researcher would be available as a resource person during 1994 and 1995. Her involvement in particular papers would be at the discretion of the paper coordinator. Students could be referred for one-on-one support and staff could request lectures or workshops for classes requiring specific support.
- a new marking schedule would be developed that would be presented to students before they submitted their assignments.

All but one of the objectives had been at least initially addressed through the decision to support the writing of the Style Manual, which was to underpin the writing programme of the department as well as provide a text for 19.155. The remaining objective, that students be able to produce a document to professional standards, including correct spelling, sentence structure and paragraphing, had yet to be entirely addressed. While the Style Manual did contain material on paragraphing, it lacked extensive material on the mechanics of English language. Towards the end of March, the group had a final meeting to address this issue and, following the meeting, sent out a document that addressed the remaining objective through the new marking schedule.

The group based their strategy on the following principles:

- there should be no shared marking schedule and no allocation of marks for writing skills.
- no distinction should be made between stylistic writing requirements of 100, 200 and 300 level students.
- all assignments should be retrievable.
- we should all be prepared to fail students on the basis of writing skills.
- assignments that were deemed unacceptable in terms of writing skills should be returned to the student unmarked (and without comments). The student would then have the option of resubmitting for a maximum grade of 50%.

The rationale for this system was as follows: students would encounter a communications paper at 100 level. Here they would be taught the expectations of the faculty regarding formatting, presentation and grammar. This paper would also require students to purchase the equipment to solve their own problems, i.e.

it required them to own a dictionary, a faculty style manual and a book on writing skills (Newby, 1989) which contained extensive sections on the mechanics of English. It would therefore be inappropriate to reward (by giving marks) 200 and 300 level students for skills that we would expect them to acquire at 100 level. Consequently, we rejected the idea of allocating marks and instead recommended a 'shock tactic' to reinforce lessons learned in Communications in Applied Science.

The advantages and disadvantages of the system were listed as follows:

- students would be given a clear and consistent message from the department about the value of good communication skills.
- students would be encouraged to actively identify and solve their own writing problems.
- marking loads would not dramatically increase.
- marks could be focused more directly on course content.
- staff would not be using valuable time and effort teaching writing skills.
  but
- how would we apply these policies to big papers that were 100% assessed by examination?
- would the students who didn't take 19.155 or who took it in the second semester be disadvantaged?

There were other obvious pedagogical difficulties: such an approach might prevent students taking risks with their writing; also the issue of developing skills was not addressed. Nevertheless, the logic for the policy had several positive features. First, it was soundly articulated (i.e. we don't reward skills at 300 level that we expect students to have acquired at 100 level). Second, it was developed by the group in relation to their objectives. Third, it was balanced by the supportive structures of the Style Manual (which addressed the other objectives), the (limited) services of a writing consultant, and the communication paper.

The memo was discussed at another full staff meeting the following week. While all staff were comfortable with the Style Manual and the use of a communications paper to both provide a foundation and develop the stylistic requirements of the department, there were some reservations about the approach to requiring a high standard of writing skills. In response, two of the members of the department who formed part of the small group who developed the policy

argued energetically in its favour and the department agreed to trial the policy for the second semester. Accordingly, the policy was written up as a department document.

A decision was then made to send copies of the policy to the Dean and HODs for further discussion, with a recommendation to have it adopted by the faculty. I strongly contested this move, as I was concerned that it be tested before it was implemented widely. In the event, my concern proved unfounded. Distributing the policy for wider consideration proved fruitful in terms of the response it drew from members of other departments. The Dean, who was highly committed to ensuring that students acquired the skills prioritised by employers, including communication skills, and hence supportive of a writing programme, was open to the idea of promoting the policy more widely. Members of the Department of Plant Science who were involved with the communications paper responded through their HODs, questioning the pedagogical soundness of the policy. Of particular concern was the question of whether it was too harsh and whether, to balance the requirements, the faculty could provide enough support for students experiencing writing difficulties.

In the light of both the criticism of the policy and the positive response from the Deans and HODs to the notion of a writing programme (the head of the department described HODs as voicing widespread agreement with the adoption of a writing policy across the faculty), the decision was made to trial the programme in Semester 2 1994 and to report back to the Dean and HODs so that further decisions could be made for the faculty on a more informed basis.

7.4 Data collection

Although data collection was primarily my responsibility, some members of the team spontaneously conducted surveys on their papers that included questions relating to the writing programme. Moreover, group members made a commitment to providing the research with all relevant documentation. The data collection for this project was less consistent than that of the other projects,

primarily because collection times and methods were dependent upon the co-operation of paper coordinators. Collection methods used included the following:

- document collection. All documents relating to the writing programme were collected to provide a record of the official progress of the project.

- staff documentation. Most staff in this project were unable, due to work commitments, to give the amount of time required to maintain a project journal. A journal was kept by the researcher and by one other staff member in 1995, but the experiences and perceptions of other staff were recorded as required, on an occasional rather than consistent basis, either through interviews or short reports.

- entry interviews. All staff were interviewed in relation to their attitudes to and experiences of writing and teaching writing at their point of entry into the project. All interviews were conducted and (audio) recorded by the interviewer using a semi-structured interviewing technique.

- assignment collection. Assignments were collected on a random basis and also all assignments that were resubmitted were copied in both versions, subject to consent.

- focus groups. Two papers used focus groups to evaluate the paper and the writing programme in particular.

- class questionnaires. Some staff used a survey of class satisfaction with the paper to evaluate the writing component.

All participants, staff and students, were asked to sign consent forms, as with the other projects. Participation in the assessment of the project was voluntary, and participants were free to withdraw from the project at any time.

It was of some concern to me throughout the implementation of the writing programme that the data collection process was so inconsistent. However, the issue appeared to be one of time, given the working context of the participants; I again had to acknowledge and appreciate that action research must always recognise and work with the constraints of the context, and this was one situation where contextual constraints inhibited data collection.

7.5 Cycle 1: Action and Observation

Four papers used the writing strategies in 1994. The cycles for this project followed a single semester (each paper using the strategy was one semester in duration), so two cycles were possible in one academic year. One paper in semester 1 used a hybrid version of the strategy, prior to the strategies being finalised; three papers used the full strategies in semester 2. The progress of the four papers and the evaluations of the strategy for each of the papers follow below. Following the end of the second cycle, four members of the teaching team met together to collate the data, discuss the strategies and evaluations, and write a report for the Head of Department to take to the Dean and HODs. A summary of the results is given in this chapter following the discussion of each paper.

It should be noted that in all but one of the papers employing the writing strategy in 1994, the students might not have completed 19.155: some would be taking 19.155 concurrently with the department's paper, some would have completed the communications paper, and some (those who had not transferred to the new degree) would not be including a communications paper in their degree programme. Only for the first year paper, 19.152, could it be assumed that all the class had taken the communications paper. Clearly, this was not an ideal situation, since the writing strategy was intended as an extension of the communications paper. However, the only other solution would have been to delay the beginning of this project for one year, at which point the impetus for the project might have been lost. The decision was made by the HOD, in

consultation with the group, to go ahead with the less than ideal situation as a trial run; the group was in agreement that there was rarely an ideal time to start an educative innovation.

7.5.1 11.341 Horticultural Management II

The hybrid version of the strategy was used in 11.341 Horticultural Management II. The paper coordinator's strategy and finding are outlined in his own words below:

Marks for the first project were allocated equally between English and presentation and farm management content. ...There were 19 senior students in the class. ...Marks for English were between 2 1/2 and five out of five. Ten students scored four or better; a score of four was used to identify the minimum standard required. Therefore, the balance of the students in the class had submitted work that would be deemed unsatisfactory if submitted to that standard at a later stage. They were forewarned!

Assignment two was submitted four weeks later. No marks were allocated to English and unsatisfactory assignments were to be returned in accordance with the department's proposal. Every assignment submitted met the standards imposed. They were, in most cases, a pleasure to read, mark and grade.

Members of the Faculty have described this process as "draconian". If instilling standards in students' written work is draconian then so be it. However, the response shown by the students towards meeting professional standards is fascinating. Surprisingly they respond, either from a fear of failure or from the satisfaction of submitting a project to professional standards (13.7.94).

7.5.2 11.258 Agricultural Systems II

The coordinator for this paper came from the Department of Soil Science (the paper was included in the strategy because two members of the Department of Agricultural and Horticultural Systems Management formed part of the teaching group). He was cautious about the writing project, and agreed on the understanding that students would have continuous writing support available to them. The level of support for the writing in this paper was, therefore, very high, with times specifically set aside for writing groups to visit the Business Studies Writing Centre and members of the teaching team working with writing groups for the final assignment. Students were informed of the writing strategy and the support that was available to them in a handout and in a lecture.

The paper included three group assignments focused on particular farming systems. The structure of the paper divided into four sections, one on systems theory, and then three sections, each focusing on a particular assignment; the last three sections included an extensive farm or industry visit. Students were referred to the Style Manual for details on structure but were also given detailed instructions about structure in the assignment handout, which also included the marking criteria.

I screened all the assignments. Assignments were classified as pass, marginal (as a warning) or resubmit. None of the first assignments were returned for resubmission and only two were identified as marginal. I identified only minor problems such as spelling, punctuation and referencing errors, which could generally be attributed to the less competent writers in the group. Subsequently, I recommended that student groups be encouraged to use an editor in future assignments. Findings for the second assignment were similar, with general improvement being noted by all markers, and the standard reached in assignment three was considered by the markers to be higher still. No groups were required to resubmit for any assignment.

The paper coordinator, at the end of the semester, wrote a memo summarising his response and perceptions to the writing strategy. Like the paper coordinator for another paper in this cycle, 11.251, he was disappointed by the students not using available support.

Another problem, as I see it, is the disappointingly small number of groups that used you for advice and support. As groups were often endeavouring to write and compile the reports in the 4–5 day period immediately before the due date, there was insufficient time for them to work with you. Whether this situation arose because of poor organisation and bad time management or genuine work overload and pressure is not entirely clear. I tend to favour the latter explanation. The scheduling of student workloads is obviously a larger issue than either 19.258 or [the writing project] can hope to address (3.11.94).

Nevertheless, his overall assessment of the writing programme was cautious approval. He describes the use of the programme as a 'qualified' success:

Its major achievement was the important role it played in the greatly improved quality of reports submitted by student groups as the paper progressed. Arguably, one of the most gratifying aspects of 19.258 was the professional standard of the third and final report written by students. In setting standards, providing guidance and support, and threatening to visit its wrath on the weak, [the writing project] was an essential part of the educational process that resulted in this improved student performance.

While it is obviously important that students (always) write well, there is a particular need for students to be able to write clearly and concisely in 19.258 where they are using some systems analysis concepts for the first time. By careful and clear writing, students are better able to understand the complex nature of the systems under consideration (4.11.94).

This final statement is interesting as it indicates learning and writing as pedagogically linked. This was not a key theme in this project (compared with, for example, project three, where this link was crucial to the project), but nevertheless emerged occasionally in staff comments. Generally, however, the focus of this project was learning to write rather than writing to learn.

7.5.3 19.152 Agriculture and Society

Because 19.152 was a first year applied science paper, it was possible to assume that all students taking it had either completed the communications paper (19.155) in the first semester or were taking it concurrently. Consequently, less emphasis was placed on providing students with intensive one-on-one support. The paper was the largest using the writing strategy, with almost 250 students. It was team taught by members of the department, the Department of Agricultural Economics and Business, and the Departments of History and Maori Studies.

Students undertook two assignments. The first was very short (only a single page) with a largely descriptive, but highly structured, topic that required the use of secondary sources. The second was a formal essay requiring a thesis and argument. For both assignments I ran tutorials and a lecture on essay structure (19.155 did not teach essay structure in 1994); one-on-one support was also available for a period prior to the submission of both assignments.

After screening the first assignment, I returned twenty assignments to students with a covering letter directing them to the help they needed (either referring

them to the 19.155 study material or referring those with more serious writing problems to the Business Studies Writing Centre). Those students who were directed to seek one-on-one help complied by visiting the Writing Centre for a consultation.

The second assignment saw a change in the marking strategy and a perceived change in the quality of the students' work, as described in my journal:

> Some surprising results have come out. ...The standard and presentation of the work has improved dramatically. Not surprisingly, the commitment of people to the strategy has improved dramatically.
>
> The first thing, though, that happened was a shift in the application and interpretation of the strategy. We decided the wording of the strategy was ambiguous and allowed for two possibilities. First was the idea that resubmitted assignments would simply have their marks halved. The trouble with this approach was that there was very little incentive for students to actually resubmit their work, since they would fail anyway. ...But [the paper coordinator for 19.152] took another approach. He said that the strategy meant that students would be able to get a maximum mark of 50%, in other words, any assignments that were capable of passing would get 50%. So effectively we would be giving a pass-fail grade. ...Overall, because of the incentive involved, everyone [all the staff involved in teaching all three papers] decided to take [this] interpretation.
>
> My initial reaction to the assignments (19.152 and 19.258) was that the assignments were much improved in terms of style and structure. It was particularly noticeable in 19.155 how people had tried to use the essay structure detailed in the Style Manual and in the lecture I gave. Major weaknesses...were to do with acknowledging sources, citing sources and using APA references in the reference list (28.8.94).

The assignments were marked using a combined criterion-referenced and holistic marking schedule, to provide fuller feedback both to the students and to the markers, and to encourage markers to give as much feedback as possible with minimum effort.

7.5.4 11.251 Farm management

The paper coordinator for this paper decided to involve me in the implementation of the writing strategy as a response to the poor level of writing skills in the first assignment. His initial reaction to the first assignment was to send a group of the students to a series of open lectures on generic writing skills (such as punctuation

and paragraphing skills) which I was running. The lectures were not tailored to the particular group but were already being conducted for the university population as a whole. Students from this paper were encouraged to attend if their marks for this first assignment were poor. The marking strategy was implemented for the second assignment and I was asked to be involved in its administration once it had been submitted. Hence, apart from the generic workshops, the students had been offered minimal support for these first two assignments.

For three of the four papers that took part in this initial trial (cycle 1), staff perceived a definite improvement in students' writing abilities throughout the cycle. The paper coordinator of 19.258 noted the students' use of an editor (i.e. a member of their project group) to produce reports which improved throughout the second semester while the paper coordinator of 11.341, as quoted above, indicated a dramatic improvement in students' presentation and writing skills. For 19.152, student essays revealed an ability to use basic essay structure including propositions and simple paragraphing techniques.

Only in this paper was the paper coordinator unhappy with the level of improvement in student writing. Nevertheless, in a questionnaire which he designed and administered, 44 out of 76 students in this paper indicated that they felt their writing skills had improved through the semester and almost all students stated that they had an understanding of where their writing weaknesses lay. 40 students stated that they felt they were given adequate support to improve their writing skills while 19 did not. That so many students felt they were given adequate support is perhaps surprising, given that they were offered no one-on-one support until the final assignment. Over the whole semester 15 students were required to rewrite at least one project and 26 were told one or more of their projects were marginal.

In the comments on the communications strategy, a full range of responses was elicited. Many commented that the system was overly harsh (although many of those who commented on the excessive loss of marks indicated that they would consider it acceptable to lose 15 –30% for writing skills) and that having to

rewrite an assignment prior to exams was very difficult. However, a minority offered positive comments:

> I've certainly re-read and proofed my last project so perhaps the message will get through once people get stung.

> It's a good idea as it makes you aware and you know that you have to ensure it's up to standard (Comments by two students from an undated evaluation questionnaire).

The paper coordinator for 11.253 wrote a short report that discusses several issues that arose as difficulties throughout the writing programme. He summarised the main problems in an undated memo as follows:

1. There was some confusion about the penalty imposed on students who had to do a rewrite.

2. We did not specify the penalty imposed on students who did not rewrite when asked to.

3. Students commented that there was not really any incentive for them to rewrite their projects.

4. Staff are not adequately trained to screen projects on the basis of their written English.

5. Questions arise as to how to teach students the styles and genres of a discipline.

Two further issues that he identified in his report are concern that students were not using the support that was provided for them and the need for the involvement of a writing consultant to monitor the writing process.

7.6 Cycle 1: Reflection

A number of problems were identified through the review process. First, the marking schedule was difficult to administer, in terms of time constraints and the amount of handling of each assignment. Time issues related to the fact that all assignments had to be screened and some assignments had to be marked twice: clearly assignments could not be scheduled immediately before a vacation, for example. Secondly, unless the paper coordinator was confident about screening,

assignments had to be handled twice or even more to ensure consistency of approach, leading to administrative hazards such as losing assignments or recording marks incorrectly. Big classes, therefore, posed obvious problems.

The issue of staff and student support was also a concern. Since the marking schedule was proposed as a teaching strategy, not just a punitive strategy, some writing support was needed for students with problems and for staff who were working with these students. ESOL students were a particular group that suffered under the new marking systems, since they were required to meet the same standards as students with English as a first language. This group needed more extensive writing/language support than was available through the voluntary support of the writing consultant within the project. Without this higher level of support, the marking schedule was extremely harsh, since they had no way of improving their skills.

Consistency in using the marking schedule proved a serious difficulty, especially in large classes where a number of tutors might be marking the same assignment: clearly, this group had to agree on what constituted grammar or punctuation errors. And one of the things the marking schedule clearly showed was that many members of the tutor group could not identify errors consistently. For one paper, one tutor identified even minor comma lapses as errors while another tutor failed to identify major sentence structure errors such as missing verbs, subject-verb disagreements or sentence fragments.

Interestingly, the marking schedule also identified a key staff misunderstanding in relation to writing: many staff could not distinguish between poor style and poor grammar. The marking schedule was designed to identify problems with grammar, but staff who showed difficulty identifying major sentence structure errors were also highly likely to identify sentences which were grammatically correct but written in an inappropriate style (e.g. too informal, or, more commonly, too formal) as grammatically incorrect. These factors suggested that the concern about student writing was not poor grammar but poor or inappropriate style.

A small group from within the department was commissioned to write a report for the HOD. It included the following comments:

> Because staff have difficulty distinguishing between style and grammar, the present marking schedule, which focuses heavily on grammar, may in fact be inappropriate or inadequate. If the major concern of the staff is that students acquire an appropriate 'style' or language, then our [writing] policy should focus on that as well as/rather than on grammar and 'correctness'.
>
> The style the students tend to use is pedantically and stiltedly formal, with many grammatical and spelling errors. The students' writing style indicates that they are attempting to use a writing style that they are unfamiliar with (i.e., they have been told to write a style which is 'formal' but they have very little idea of what that should look or sound like) and that they therefore make more technical errors than they would if they were writing a piece of informal prose. It is clear, from talking to students, that they read very little and that they are often required to write, say, a farm report when they have never read or seen one (December, 1994).

Clearly these comments are, to some extent speculative; nevertheless, they point to an important point which is that students may have been struggling to find the correct level of formality. This uneasiness may have been due not entirely to poor generic writing skills but also to a lack of understanding or familiarity with what was stylistically required of them. As the interim report went on to say, "The Style Manual *tells* the students how to write a report; it does little to show them."

The interim report also looked at student difficulties with using the Style Manual and their lack of ease with referencing secondary material and addressed the need for a change of 'culture' within the faculty in relation to communication skills:

> Communication skills are yet to be fully accepted as part of the curriculum and the culture of the Faculty. Student amazement – and, at times, hostility – about the emphasis on communication skills and their importance as part of a professional training was often very high. "We came here to learn agriculture, not English!" was a cry repeated in many forms and variations throughout the year. Most students are, as yet, unable to organise their work to accommodate a visit to the Writing Centre, despite high penalties for not doing so, and staff are often uneasy about penalising for poor writing skills. A change of culture is required for staff to have confidence in demanding a high standard of communications skills and for students to accept and plan for this. The Department (and the Faculty, perhaps) are in the first stages of this change in culture (December 1994).

The report was submitted to the HOD who asked us to submit a copy to the Dean. A response was received from the HODs and Dean's meeting supporting

the continuation of the programme. They stated that they were unable to meet the request for a writing consultant for the faculty at this time but they would like to be kept up to date with progress. This response was reported to a department meeting, where the department confirmed the continuation of the programme for a further year.

7.7 Cycles 2 and 3: Planning and action

Given the need to adjust the culture of the department and faculty, and given students' lack of familiarity with the requirement to produce writing of a professional standard, combined with the very limited student support available, attention turned much more fully in the next cycles to supporting students through the change of focus and providing them with learning opportunities. Through these cycles I worked primarily with paper coordinators, rather than with the larger research group, to identify strategies for increasing student support and learning in relation to communication skills.

Three papers adopted writing strategies in 1995: 11.251, 19.258 and 19.259. The latter paper took up the writing strategies for the first time in 1995, while 11.251 and 19.258 had used writing strategies in the previous cycle. Three particular issues were discussed in relation to improving writing strategies:

- modelling different types of assignments so students could be more aware of the required style
- using a retrieval system which did not penalise students for poor initial submissions but which allowed them to learn appropriate style and structure
- using learning to write techniques such as microthemes and audience specific writing to extend students' language skills

It should be noted that during 1995, unlike 1994, all students could be assumed to have passed 19.155, and therefore would have completed a paper that taught basic writing and style skills.

7.7.1 11.251 Farm Management

This paper used the same marking schedule as the previous year, returning substandard work to students for resubmission with a considerable penalty. Fewer students were penalised under this system in this second cycle, possibly due to the fact that all students in this group would have experienced 19.155. Also, there was considerably less hostility to the marking schedule. Another issue, the distinction between style and grammar, which we had been alerted to in 1994, was less of a concern, but largely because I took the responsibility for screening for grammar and left the tutors to comment on style.

One of our concerns was to provide adequate support for students more consistently in this cycle, including providing models of report structure and style. Two models of good reports from the previous year were included in a student guide to report writing that focused students on the requirements of the reports in the paper and referred them to the Style Manual. Students were also referred to a group of open lectures on writing skills, which included a series on writing reports, and one-on-one support was available to students after the first assignment.

The standard of assignment was perceived by teaching staff to have risen considerably. None of the first assignments were returned for resubmission and only eight were warned as marginal. In my journal I wrote the following:

> What is hard to quantify is the change in the assignments. They were well presented, clear, with quite a different style to last year. ...The others wanted to put it down to 19.155 but I don't see how you can attribute such a change to one 12-week paper. Rather, I think there has been a sustained attitude change. Last year the students had never before been asked to do an assignment with good writing skills; it had never been mentioned to them. But last year these students did 19.155 and they were in 19.152, and they had writing skills stressed again and again. Perhaps they are beginning to accept it as part of their academic programme? Also, they have the resources to support them after 19.155 and after the support we have given them in this paper (19.4.95).

The standard of the assignments was perceived by staff as remaining higher than the previous year, although for projects two and three there were some resubmissions.

Unfortunately, in terms of the evaluation of the process, the paper coordinator failed to re-survey the students for their assessments of the communications elements of the paper. All in all, however, the process was smoother than it had been in the previous year, though there were still some difficulties. The paper coordinator identified a series of problems:

> I think the biggest problem...was that some of the students that had done fairly well except for one or two pages that they got checked on got hammered for that. ...Yes, I think fairness was the main [problem]. The other problem was the students that were marginal still tended to try...they just went to the minimum standard. I don't think they really did much more than that. And I think the other problem with students at the moment is there's too much time required in their course work with semesterisation. So they're not having time to reflect...so a lot of the feedback we give them you find they're not using it. ...

> The other problem that came out was the support. Two things, one we know that we haven't got the skill to judge the English and we're really looking at style rather than...well, we're also looking at grammar but we don't have the skills to assess that. ...And the other thing was support. The students weren't happy with the level of support. They had to be too well organised from their perspective for the pressure of work. ...So if you were away they got upset and complained and got grumpy and stuff, so there was that. The other was we get hit because we're doing it and no-one else is doing it. So the across the curriculum has to be brought in or you'll just be seen as a hard paper and [as] the people that force them to do this and no-one else makes them do it (1.6.95).

7.7.2 19.259 Horticultural Systems II

The paper coordinator of 19.259 preferred to support the writing programme within the faculty by adopting some of the writing to learn strategies that were the focus of project three. Using a combination of genre/audience specific writing, microthemes and modelling, the paper took a positive approach to teaching writing styles.

The entire paper was focused on two systems case studies, one a soft system and the other a hard system. Within the two case studies there were three or four assignments (some were individual assignments and some had to be completed in groups). The first sets of assignments, relating to the first case study, included:

- a system description
- a problem identification memo framed by a specific context

- a group newsletter, again according to a specific context relating to the case study

- a group SWOT analysis of the case study system

Both of these latter assignments were group projects and included a staff member allocated to each group as facilitator. Case study two followed the same audience-focused structure, including a letter to a grower, a report to self, and a consultancy report for a grower. To assist the students, each assignment instruction sheet provided very full details of aims, objectives and marking criteria and the larger project included an example or model. The marking schedule combined criterion marking with a holistic marking system, thus allowing for fullest possible feedback. Group marks were allocated according to the system devised in project three.

Despite running workshops on how to work in groups, we experienced the usual problems of group work, such as people not pulling their weight and some members of the group feeling excluded. Nevertheless, in focus group interviews students commented positively on the use of group assignments, stating that they enjoyed the novelty and that they saw this approach to assignment writing as preparation for the workforce where group work would be inevitable. They further commented that they felt the evaluation of the group projects was fair and allowed members to give an accurate reflection of each member's input.

The paper coordinator's journal records that there was initial resistance from the class to the unusual form of the assignments for case study one:

> The students are not at all sure about what they have to do to prepare their articles for the newsletter. They were not comfortable with simply being told to produce one similar to the sample one [the model]. They complained that they would not be able to prepare the material in time. Others felt that it was all too much work and asked if they could simply hand in a report. ...Project 4 went down OK. ...I don't know about students. The more you try to make things interesting, the more they want to stick with the same old boring format for things: "It's what we've been used to"; "Why do a SWOT analysis – we can discuss the advantages and disadvantages we see in a system!" (15.8.95).

Nonetheless, despite this initial resistance, focus group participants at the end of the semester commented favourably on the organics assignments (case study one), with students describing the assignments as interesting, useful, and not too difficult. Comments about the newsletter indicated that they enjoyed this particular project on account of it being 'different' from most assignments. The paper coordinator's comments about this assignment were also positive. Comments from students in the focus groups about the assignments related to case study two were generally very critical; this criticism, however, related to the organisation of this aspect of the paper, the preparation the class was given for the assignments, and the lack of connection between lectures and assignments. In other words, comments seemed to be more connected with the teaching of that section of the paper, rather than with the assignments themselves.

Examples of student assignments that related to case study one showed an understanding of the relevant structural and stylistic requirements. Grammatical errors were minimal, and in all cases individual or student groups made a conscious effort to prepare the assignment for its specified audience, i.e. they showed an awareness of audience needs and level of comprehension.

7.7.3 19.258 Agricultural systems II

In 1995, 19.258 took on a different policy of retrievability from the previous year. Instead of restricting the resubmission requirement to people whose skills were below a minimum standard and penalising for the need for resubmission, the paper coordinator, after discussion with me and other members of the teaching group, decided on a resubmission policy for all students. His objective was to give much more direct feedback to students on what was acceptable in terms of style, structure and approach. There were three projects for this paper: one small report and two big systems reports, focusing on industry systems. The last assignment was particularly demanding since it focused on the entire beef industry in New Zealand. All projects were to be done in groups. Marks were allocated to both drafts (60% of the total mark for the first draft and 40% for the second), since staff doubted that students would write two good versions if no marks were allocated to the first.

One of the most immediate difficulties relating to the resubmission policy was working with staff on using this system. Two members of the group were new to the idea of a writing policy (they were from a related department) and one of these new staff members was strongly resistant to the idea of 'marking twice'. His response was to refuse to give detailed feedback to students on how they might improve their work for a second submission, restricting himself to very few, very non-specific comments on the text. His opinion, stated strongly at meetings, was that the purpose of assignments was to evaluate students; teaching should take place prior to an assignment being written, not during the writing and marking process.

A further question arose in relation to the marking spread. If the standard of students' work rose considerably, should they be awarded a considerably higher grade than their earlier submission, given that they had not produced work to that standard initially? Would that not disadvantage students whose work was at that high level in the first submission? One tutor was strongly of the opinion that the second submission should be marked much more harshly, in order to retain the advantage of those submitting high quality first drafts, and he marked accordingly.

A third concern of the teaching staff was how to comment on the first draft. Staff were concerned that if they corrected the first draft in fine detail, then they were doing work that was rightly the students', and that the students would need to do no more than just transfer the comments into the final draft. We therefore discussed alternative ways of commenting on students' work, such as the use of directive questioning, in order to lead students towards more complex issues without telling them what to do. After the marking of the second assignment all markers except one were comfortable with the different form of responding to student work.

Student groups were also given the opportunity to meet with their markers after the first submission to discuss areas of concern. All groups took the opportunity to do this for the second assignment.

Despite the difficulties that obviously arose from these diverging attitudes and approaches, students' initial responses to the retrievable marking system were very favourable. Staff commented on the students' willingness to learn from comments and to make major adjustments in their second submissions. Marks in many cases increased by 20%. Some reports were read twice by different tutors to ensure fairness in the marking, and staff comments were very positive.

In the third project, by contrast, students failed to make major changes to their second submissions. This was a major project, focusing on a major industry system in New Zealand, and was due at the end of the semester. Poor second submissions were attributed (by both the students and the staff) to work pressures faced by students; nevertheless, the lack of improvement was deeply frustrating for staff who felt that, in the face of students' lack of response, they had wasted their time in providing such detailed feedback, as illustrated by this comment:

> Some groups used it and jumped their grades 20%, so that's quite good. But I think as the work pressure came on that died, so all that happened was you put a huge amount of effort into marking it but handed it back, got it back and they hadn't done much but you still had to go through and do the marking again. So for us it doubled our workload without that much benefit to the student. ...I guess the disappointing thing for us was initially the students did make an effort but after that they were really making only marginal changes because they were too stressed out (1.12.95).

7.8 Key themes

The most noticeable change through the two years of the writing programme was the modification or softening of the marking system. There was undoubted ambivalence towards it in the department at its inception. In my journal (13.4.94) I noted of the meeting that confirmed the marking system: "There was general agreement to the approach although I felt no one seemed to feel very strongly about it." This ambivalence was further confirmed throughout the first semester of its application, and in the middle of the semester the ambiguity in the wording was used to modify the system. In the second year a further 'softening' could be seen. Only one paper used the same approach, but in a more supportive context,

while the other papers took an approach which more actively taught and demonstrated the need for quality writing skills.

The second most significant change came in the shift of focus from grammar to style. By the second year, all three papers were taking active steps to teach the stylistic requirements of the discipline as well as sustaining the requirement for 'good grammar'. In all instances, this shift to a focus on style meant a major task for the teaching staff in terms of both identifying and then teaching the style required.

Thirdly, the need for support for students was more extensively recognised. The members of department were always aware of the need for support, but by the second year, this awareness was being translated more extensively into action in the form of models, more extensive assignment directions, more references to the Style Manual, more consistent availability of one-on-one support, and more appropriate/relevant workshops on writing skills.

Finally, between the first and second year, the attitude of students to the emphasis on writing skills shifted. This may be attributed partly to the softening of the system and the level of support and teaching available, but also to students' increasing familiarity with the emphasis on writing through 19.155 and other first year papers. Staff perceptions were that students responded better to an emphasis on presentation and writing skill in the second year and that the standard of work improved.

There were some difficulties, nevertheless. The major issue was this: despite the results of the initial interviews and the undeniable commitment of some staff, there was overall ambivalence in the department about whether it was appropriate for the department to be prioritising a writing programme. This could be seen in the reluctance of some staff to be involved with the programme at all, and in the hesitation that was often apparent in applying the programme. This could be attributed to several factors, most particularly the way in which the project was initiated, a more important curriculum debate within the department,

questions about the relevance of writing to students within the department, and concerns about the financial wellbeing of the department.

First, the idea for the programme and the commitment to it from a research perspective was mine, not the department's. In this respect, as I have noted earlier in the chapter, project two differed from the other two projects. Action research is ideally seen as emerging from the context in which it takes place, initiated by participants; while this project certainly emerged to some extent from the context, it was not, in retrospect, the primary concern of the department from a curriculum perspective. Second, I became aware of a major curriculum debate in the department after the writing programme had begun. It connected with the programme in many ways, in that it concerned a definition of systems thinking and teaching and its place in the faculty programme. In staff discussions, later interviews, and staff reports and journals, it emerged as a preoccupying and primary concern which often displaced discussion relating to writing skills; my perception was that it was this curriculum issue which needed to be foregrounded in any research relating to the department's teaching programme.

Third, there was some question about whether the students in the faculty really did need high quality writing skills. Although faculty surveys indicated that this was a major concern of employers of graduates, some staff involved in the project doubted whether it was relevant to the students they were teaching. This attitude was shared by some students. I first encountered it in a discussion with a staff member:

> He said he thought that AgHort students were a unique bunch in that many of them did not have what I (Lisa) might consider to be basic skills, like writing skills, but that they had a passion for the land and that that would transform them once they went out into the real world. I mentioned this to another staff member who said "we're not teaching...farmers!". ...So I have been asking this of everyone I interview [who are we teaching?]. Most of the interviewees seem to think we are training business people working in primary related industries (31.5.94).

Students supported this in their comments on the communications aspect of the 11.251 paper:

> If you don't want to be in the consultancy field it's a waste of time getting the literature right.
>
> To someone who wants to go back onto the farm it [the marking system] is unfair, but if they are leading towards being a consultant it is fair (Comments by two students from an undated evaluation questionnaire).

Finally there was the concern already mentioned in this chapter that the department might be disadvantaged within the faculty by being the only one which demanded high quality writing skills of its students. If it lost students because of the writing strategy, then this would adversely affect funding and staffing. The survey of 11.251 students confirmed that students were not being asked for such standards in other departments.

Another issue of concern, which will be discussed fully in chapter nine, was the role of the researcher and the use of action research for this project.

7.9 The researcher's role

Project two was, undoubtedly, the hardest for me as a researcher, for a number of reasons.

First, I made a decision early on to take the role appropriate to an action researcher, i.e., a facilitative rather than directive role in the department. This decision was based on my assessment of the staff's competency in discussing writing issues and on their knowledge of action research (many of the staff used qualitative research methods in their own research and had at least a basic understanding of action research). In addition, the staff, too, understood my motivation for taking this facilitative role in relation to action research; they understood that ownership was an important concern for the long-term viability of the project. Their acceptance of this role was underlined in one meeting where I was opposing a particular line of action and one person asked "whose writing project is this, Lisa?" as a way of reminding me of my facilitative rather than directive role. And the action of the project, with the softening of the marking system over time into a more viable approach of supporting students and

focusing on style rather than grammar, seems to have confirmed that this facilitative role was the right one: the staff themselves discovered that the approach they were taking was too harsh and modified it spontaneously.

Nevertheless, I was left with a concern that the project might have entrenched itself more securely in the department if I had taken a more directive role that would have forestalled some of the problems before they arose. Looking back on early interviews I see signs of staff wanting more support and direction than they were given (see the interview quoted on p.193). Furthermore, at one stage a staff member contacted me to suggest I might take a more directive role. I decided not to act on this suggestion, having made a decision about my role in the light of the context and my understanding of an appropriate role for an action researcher; in reflection I have asked myself whether I should have been more flexible to the real context, rather than adhering to a theoretical position.

A second difficulty was that staff often didn't have time to undertake data collection that they had agreed to. Most had heavy teaching loads and research responsibilities, as already stated, and these came ahead of the project. While I collected enough data to produce a triangulated assessment of the project, lack of specific data was often frustrating (an example, as noted before, is the paper coordinator of farm management failing to conduct a questionnaire in a later cycle, precluding comparison between two cycles).

A third difficulty was that, in many ways, this project was implemented by individuals, without a self-supportive group. Although the department worked together during the planning phase and completed one reflection period, through most of the action and reflection I worked with individual paper coordinators, each of whom had quite different ideas about what he wanted to achieve in his paper. Decisions were often made by individuals, or by an individual in conjunction with me: hence the development of the project was not determined by a group, but by individual decisions, agendas, motivations and past practices.

Looking back at the project, we can see its development as successful: at the end of the project a policy had been tempered by experience, and some staff had an

understanding of their own requirements of student writing that they did not have at the beginning of the project. From my perspective, however, the project was a rocky road – at times exhilarating and always interesting, but often confusing and frustrating. My assessment of my role was ambivalent.

7.10 Conclusions

If we return to our research questions, we find that this project gave ambiguous results. The idea of collaboration between a writing consultant and a group of academic staff to teach writing did not really get off the ground here. This may have been due to the lack of cohesion in the department prior to the project or to the fact that paper coordinators at the university are accustomed to running their own papers independently (see comments on project one on p.183). Another factor may have been the more pressing curriculum issue that the department urgently needed to resolve. Nevertheless, individual academics working with a writing consultant showed tangible development in their ideas about teaching writing. First, staff on the whole moved from a focus on grammar to a focus on style and genre. Second, most staff adjusted the original punitive marking schedule to something which was more pedagogically supportive. And, third, there was a voluntary shift from a wholly 'learning to write' pedagogy to a more 'writing to learn' focus which was generally more supportive of the students.

Despite all this, the project did reveal a key problem. While we might say that the project showed that an academic staff member working with a writing consultant can develop an effective writing programme within their curriculum, it also showed that a further factor is required. The students in this project needed more support with their writing than the academic staff could give. There is, therefore, a suggestion here that while a writing consultant is needed to support staff who wish to integrate the teaching of writing into their papers, any university considering the development of a WAC programme must also provide writing consultancy support for students. This writing consultancy needs to work in tandem with the WAC team or teachers to resource the programme at critical times during the semester.

The second research question asks whether action research is an effective method of empowering academic staff as teachers of writing. Again, the results of this project are ambiguous. Action research requires the researcher to take a facilitative rather than directive role and there were indications at times in this project that a directive approach might have been more effective, particularly in stopping mistakes from being made. However, the fact that staff made spontaneous adjustments to their writing programme suggested that they had developed an increased understanding of writing in their discipline, which had been effectively facilitated by the use of action research.

The staff's increased understanding of writing in their own discipline was the major achievement of this project. In an interview I conducted with Brian Opie, who championed a writing across the curriculum programme at Victoria University in the 1980s, he said this:

> But it's only teachers who understand what writing is who can produce good writers in specific disciplines...because academics know their fields, on the whole, not by any process of reflection...but by a process of...largely unself-conscious assimilation of cognitive routines, and that process is impossible to teach because the cognitive routines themselves aren't open to inspection (Brian Opie, pers.comm., 17.6.96)

The project was about academics inspecting their own cognitive routines, at times not perfectly but at all times open to revising their understandings, and teaching these routines in increasingly active and sensitive ways to their students. The use of action research in this context was an attempt not to teach this process but to catalyse and support it. The process was not entirely an easy one, but one which required, in Jean McNiff's (1988) words, "teachers of courage."

Chapter 8. Project Three: Horticultural Technology

> ...if I have a little thought in class I hardly ever actually write a proper journal entry but I think right, put it in my journal. Once you get the hang of it you think of these things. Like if you're sitting there and [the lecturer] says "plastic's cheaper than glass" and you think well why is that and have a little discussion in your journal (Focus group interview, project three, October 1995).

Project three is the final project in this study. It differed from the two other projects in several critical ways. First, it was undertaken by a much smaller, more integrated team (a small group of staff within the Department of Plant Science). Second, it occurred within a much larger programme of curriculum reform. Third, it had a different pedagogical structure: its focus was on writing to learn as well as learning to write. Fourth, the data collection methods were very comprehensive and systematically undertaken by all those involved in the project.

The very systematic approach to data collection in this project has influenced the way I have written this chapter. Because data has been collected from every participant's perspective, I have tried to ensure that the 'voices' of the different participants are given space to speak by shading lengthy quotations from participants. This approach is also intended to distinguish the different voices from my authorial voice.

8.1 The composition and context of the teaching group

The group which comprised the action research team for project three consisted of three academic staff (each of whom taught one of the three sections of the paper), one technician (who ran the practical project), and myself as writing consultant.[49] Unlike the teams in projects one and two, this group had a high level

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[49] Other technicians were involved in running the practical project and marking assignments, but as they were not part of the planning and teaching team, I have not included them in this discussion.

of internal unity from the beginning and was highly cohesive. The team members were socially integrated, three of them having come through their undergraduate degrees together. They had historically developed working relationships, and while there had been some conflict in the past, this had been largely resolved. They were not accustomed to teaching as a team, however. I was the only new member of the group, although I had worked with the paper coordinator in project one.

Other significant aspects of the team were its leader (who was a very strong driver of the group) and the fact that its cohesion was largely defined by its opposition to other members of the department. Members of the project team were keen to extend their findings and experience to other members of the horticulture staff group, but antagonism to the wider group was a strong motivating force.[50] All team members considered their contribution to the teaching programme of the department to be excessive. We were also under pressure, both from the time demands of the development of this paper, and from other sources (three of us were engaged in writing PhD theses during the project, for example).

The team also had, as a defining characteristic, a strong balance of team skills. One of the team members makes the point in their journal (below) that our group needed team building skills as much as the students. In the second year of this paper we decided to teach students these skills so they could work more effectively in groups. In order to do this effectively, and motivated to learn as our students learned, we completed a team profile, using the Belbin team roles method (Belbin, 1981,1993), which showed the group to be finely balanced, with all roles[51] present.

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[50] The paper coordinator, in his journal, noted the following quotation from his reading: "While consensus and co-operation are important, those committed to high-quality education will need at times to be saboteurs and subversives as well as participants and collaborators. At times the change agent will have to be a fifth columnist."

[51] Meredith Belbin is a management theorist who classifies the behaviour of individuals in groups into nine roles: shaper, coordinator, resource investigator, plant, team worker, implementor, monitor-evaluator, completer-finisher, and specialist.

I asked all the teaching staff, at the beginning of the project,[52] to describe their motivations for being involved with the project. Specifically they were asked the following questions:

- Why you are involved in the paper? What influenced you – interest? Curiosity? Persuasion from others? Orders from above?
- Where do you come from (in terms of past teaching experience, background etc)?
- What is the nature of your involvement?
- What are the potential/actual strengths of the paper (and your part in it)?
- What are the problems/uncertainties/barriers to successful outcomes?

All staff answered these questions at length: I include here two of the answers in full: one from the paper coordinator, since his vision directed the whole group, and one from a team member, as an example of how the team members' motivations coincided with that of the paper coordinator. I include them both here because they give complex answers that illustrate and articulate the extent of the participants' motivation, and the reasons for that motivation. This first passage is from the paper coordinator's journal.

I started this journey, like most of my others, because I wanted to be better than I was before the journey began. That my students would gain a better paper and teacher are expected and desired corollaries of this journey, not its genesis. Five streams contribute to this journey so far: my desire to improve the educational value of the 100 level horticulture paper (Horticulture I); my changing attitude to teaching; my involvement with writing both as a scientist and as an educator; my exposure to applied education literature; and my participation in 19.155 Communication in Agriculture.

The first stream Horticulture I was a paper that had always bugged me. I thought there was too much soft material in it—I couldn't see how it extended the students. I didn't like the emphasis on plant propagation in the paper. Despite being a previous area of specialisation (and therefore I might be expected to be parochial about its inclusion), I felt that propagation was only in the paper because of the notion that all things horticulture start with propagation, and that the propagation practicals were popular. I reject the first idea because it's boring and, for me, reflects the narrow vision of the paper's teachers. There is no doubt that the propagation practicals were popular. [Our technician] does a great job. But, and without downgrading his contribution, I also thought that as the other practicals and many of the lectures in the paper were so boring and unimaginative, [his] propagation practicals would shine like beacons in the fog of

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[52] For a timeline of the project, see Appendix 12.

mediocrity anyway. The paper didn't contain sufficient science, and perhaps to appreciate this criticism, whereas most of my colleagues regard themselves as horticulturists/technologists, I regard myself as an applied plant physiologist. I apply the science of plant growth and development to the practice of horticulture. I'm not sure why I see myself this way; perhaps it's because the technology of horticulture was part of my upbringing and I don't feel that my technological skills require further development (been there, done that!). Anyway, the environment in the degree was changing and my colleagues teaching Horticulture I weren't responding. With the introduction of a three year degree (BApplSc), there wasn't going to be enough time to teach all we used to teach about horticulture in the four year degree (BHortSc). There was also just too much to teach full stop; it was becoming more and more difficult keeping up with new developments in horticulture and it seemed obvious that our students would be better served by giving them a firm basis in plant science and skills to seek and use technological information (life-long learning etc). It also seemed important that we couldn't afford to 'waste' the opportunities for learning timetabled for us at 100 level.

The second stream I have always shunned teaching at 100 level students, preferring to teach specialised papers at 300+ levels. This reflected my (then) attitude that my job was to lecture about nursery production to students who had chosen the topic. It wasn't my job to motivate students about learning. Indeed, learning was their responsibility, not mine. Then, during 1993–1994, I decided that I was an academic. Without it sounding like a religious awakening (perish the thought—I have a reputation to maintain!), I became comfortable being an academic. With this came a change in my attitude to teaching and education in particular— principally, I decided that I had to focus more on ensuring my students learnt, and that this goal should be driving how I taught.

I also decided that the Department's best lecturers should be teaching at 100 level. Several of whom I regarded our worst lecturers were teaching Horticulture I; I decided that I could do a better job and should be there. The difficulty was, however, that I didn't have any experience at 100 level teaching.

The third stream. During the latter half of 1993, I went through a painful period of re-learning how to write. After my supervisor had slaughtered the first few pages of my first PhD chapter (he didn't bother doing the rest), I spent about six months reading every book on scientific writing I could find, and re-writing the six PhD chapters I had 'completed'. Then in November 1993, as a 'born-again scientific writer' (albeit self-taught), I heard of Alan Wright's development of 19155 Communication in Agriculture. Without reference to my HOD, I asked to be involved as a tutor in his paper. This was the way I could get experience at 100 level teaching, help improve the atrocious writing I was now seeing all around me, and also further improve my writing skills. I also wanted the opportunity to dismiss the perception held by 'senior others' in the Faculty that I couldn't work in a team. I was also bored working only with people in my Department. By the end of the first 'semester', I knew I could teach at 100 level, and I was enjoying working with the diverse group of people from the Faculty that the paper had attracted. [No matter how often I rewrite this paragraph I can't change it from sounding all very calculating. Apart from me being too disorganised to be so calculating, it wasn't—a series of opportunities just appeared in a sequence aligned with the way I was developing at the time.]

The fourth stream I did not become aware of educational literature until 1991. In mid 1991, I chanced upon the Journal of Agronomic Education (since renamed Journal of Natural Resources and Life Sciences Education). I collected several articles from the Library's stock (e.g. teaching techniques, educational philosophy, staff-student relationships etc.) and took out my own Berghage and Lownds (1991) subscription. I

didn't really use the information; I'd tend to read an article once and file it, knowing that when I had time I'd return to it and make better use it. Also in 1991, the American Society for Horticultural Science (of which I am a member) began a new journal (Hort Technology) to encourage, in part, papers from the educational sector of the horticultural science community. In late 1993, during the planning stages of 19155 CiA, I came in contact with literature on Writing across the Curriculum and heard the term 'Action Research' for the first time.

The fifth stream CiA was important to me for giving me the opportunity to hear how academics outside of my usual sphere taught their classes. But perhaps the earliest and most significant influences that 19155 CiA had on me involved the section on writing for audiences and the operation of the tutorials. I have always written for an academic audience, the assignments I set for my students always had me as the implied audience. I was embarrassed that in over ten years as a university teacher, I had never considered the idea that my students were unlikely to write to an academic in their professional careers. As a consequence of this realisation/revelation, and a re-read of the paper by Berhage and Lownds (1991), I altered all the assignments in my 300 level papers (71323 Nursery Production, 71347 Growth & Stress Management) to accommodate defined audiences[53]. The tutorials were important to me, as they were the first time I had been involved, either as a student or teacher, in a successful tutorial programme. Until my experience with CiA, tutorials had involved an academic entering the lecture room and asking if anyone (of the depleted class present) had any questions. Invariably, no one had any questions; the tutorial then either finished or was converted into a lecture. The CiA tutorials showed me that importance of providing the students with meaningful work in the period, i.e. what I was later to recognise as an active learning experience. I had previously provided problem-solving exercises for my students in 71323—my CiA experience showed me how to better combine them with a lecture session. This approach became a feature of my 71323 paper in 1994.

Convergence Having conditioned me to more reflective evaluation of what I was doing in my classes and to the range of alternative/superior approaches to teaching, these streams converged when I was challenged by my colleagues, at the end of a meeting in July in which discussed my proposed teaching scheme for 100 level horticulture (see memo of 19 July 1994), to present an example of how one of the modules would be taught. When I set out to do this, I found that I had no framework on which to hang the modules or the teaching/learning techniques I wanted to introduce. Moreover, I felt that not only did I not know enough about the techniques to use them, I certainly did not know them well enough to defend their introduction into the paper. My report was written as a learning exercise to address these issues.

So far this journey has been, to use a very wishy-washy phrase, a period of personal and professional growth. But more importantly, in realising that I have spent many years doing a job (i.e. teaching students) about which I now find I knew very little, it has also been a period of chronic embarrassment to me. I've found it embarrassing to admit that, after all this time, there are several large gaps in my understanding of how my students learn. Only now am I starting to get a handle on some of the fundamental issues of the education process. It's important to recognise this point, because my journey has, so far,

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[53]For example, students in 71323 were required to present their answers to a laboratory practical on the hydrology, physics and chemistry of soilless growing media as a teacher's manual for the laboratory suitable for a 6th form horticulture class. Students had to deliver an assignment focusing on calculating the fertiliser salt requirements for a hydroponic solution in the form of a grower-friendly/usable spreadsheet. In 71347, students were asked to present the results of an experiment as a case to a group of growers to support an application for research funds.

occurred in a non-judgemental environment. While trying to fill those gaps, I have never been made to feel stupid (paper co-ordinator's journal: date not specified).

The second passage is from the team member's journal:

1.   Why am I involved in the paper? With the exception of the last one, all of the reasons listed [interest, curiosity, and persuasion from others]. I am certainly interested in ensuring we produce a quality graduate, and perceive that the current system manages to sedate students rather than stimulate. As a consequence I have become frustrated with the...students we get to teach at 300 level.

Equally I am interested from my own professional point of view. In the first few years (O.K. the last decade) of my career at Massey I corrected people who said I was a teacher. "I do not teach, I lecture. I merely present my ideas on a subject, and whether or not the students learn is up to them". OUCH !! I didn't realise then that I was hiding behind this concept, rather than admitting that I have received no formal training on how to assist students to learn. My method of 'teaching' has been a direct reflection of how I was taught as an undergraduate – Incest!! Its time to develop.

I can't deny that coercion/persuasion wasn't involved. ...Since the development of this paper will take some work, [the paper coordinator] was clearly looking for some people that he knew he could work with, that he could trust to be sympathetic to the teaching method, and willing to provide an input. Given our past workings together, I suppose I felt obligated to help. Besides, I'm paper coordinator for the new Horticulture II paper. Hopefully I can use the same feelings of obligation to get his input into that paper – anything to minimise the input of the other [members of the horticulture group].

2.   Where have I come from?   The issue of academic incest has already been raised above. I am an undergraduate of Massey, progressing immediately to Junior Lecturer the following year. At that time (1982) I was press-ganged into contributing lectures to the predecessor of this paper. Having escaped that, I have subsequently been involved in papers at the sub-degree, 200, 300 and 400 levels only.

While I have not had years of experience working for a living in the horticultural industry, I believe that my continual involvement with industry at a research and extension level enables me to be well informed of important industry issues, and how they impinge on the horticultural industry.

3.   My involvement. Specifically I have been asked to present a section in the paper pertaining to protected cropping. However, I also see my role as providing input towards providing the students with a positive learning experience, i.e. one that will encourage them to learn, not learn in spite of what we do. Hence, I am involved in the practical classes (some I will be the principal instigator), and contribute to ideas that may influence the development of the paper.

4.   Strengths of the paper. At the outset I must state that the Department could restructure its papers and degree offerings until it was blue in the face, but unless you have motivated people 'at the coal face', then it may still not be effective. Hence a strength of the paper is the fact that a group of motivated people are working together towards a common goal. While it hasn't happened yet, as soon as dead weight starts to occur, motivation and effectiveness is likely to decay exponentially.

At the broader departmental level, a strength of the paper will be that when it is successful (yes, O.K. I initially wrote 'if') it can be used to provide motivation for the...staff to become more effective in other papers, e.g. Horticulture II (spot the linkage). In this way we could actually start to head towards some concept of 'critical mass' where we might even begin to head towards our departmental goal of academic excellence.

At the level of the internal workings of the actual paper, a strength has to reside with the philosophy of 'action research' (both from the perspectives of development of the paper (staff) and the student's learning) as well as 'writing to learn'. The goals of the paper have really changed little from the original paper I contributed to in 1982 (assuming there were some, not that I was ever told), it is the way we will provide a positive learning experience to achieve those goals, that's what has changed.

5.   Threats and weaknesses.   My perceived importance of the collective motivation of the team has already been raised under strengths.

Time is as usual against us. However, to balance this scapegoat, the adage of 'got a job – give it to a busy person' is probably relevant here.

At times the team feels a bit big, i.e. a potential for too many chiefs and too many Indians. Maybe that's just a matter of developing the management structure of the paper, clearly defining the responsibilities of all concerned. This particular issue is relevant for the sunflower practical as [the teaching team] are intimately involved, with [the technicians] on the receiving end of any instructions. This issue also revolves around us learning to work as a team, rather than as individuals. Not only do the students need some training on group dynamics, the team also needs some training to deal with ourselves (journal of team member: date not specified).

These personal narratives demonstrate key aspects of the group: a certain amount of anxiety about their ability to achieve curriculum and pedagogical change in themselves, a strong desire for change, a commitment to each other (and particularly to the paper co-ordinator's 'vision'), and a high level of scepticism concerning the rest of the department and its teaching programme. All these factors, including the first, were significant in leading to the success of this project.

As the writing consultant in the group, I was the 'outsider', the only member of the group who was not a member of the Department of Plant Science, with skills and qualifications very different from the rest of the group. I became involved with the group at the request of the paper coordinator, who had been one of the tutors in the first two cycles of the 19.155 paper. My role was not defined but included the following tasks:

- collecting all the data for the group, relating not only to the writing to learn but the paper development project (this included preparation for and running the focus groups)

- providing feedback to members of the group based on focus group interviews, and discussing this feedback with them

- involvement in marking student journals and microthemes

- attending group meetings

- initiating staff journals

- running review meetings

- providing the group with literature on action research and writing to learn

My role as it emerged (for further discussion of this see p.268) as the group and the projects developed was certainly not that of leader or facilitator. Rather, I acted as a support person to individuals in the group. My roles within the Belbin test were those of coordinator and team worker (and, to some extent, monitor evaluator), roles that are not decision or task orientated but focus on maintaining the social cohesion of the group (Belbin, 1981,1993). When I asked one of the members of the group what they saw my role as having been they responded "You were the person I bounced my ideas against", and in the journals one person described my involvement as providing "a sounding board, to develop ideas, to get direct opinion". While I was listed in the paper administration guide as one of the group members, the students only saw me in my data collecting role or assisting teaching staff in particular tasks such as the peer editing sessions or the group roles practical.

The composition of the group was essential to the development of the teaching programme, but equally important were the wider social and practical contexts that may have increased its cohesion and contributed to group objectives and commitment.

The Department of Plant Science was divided informally into several sections, one of which was Horticulture. The horticulture section in the 1990s had a high senior staff component and a problem of definition in a changing economy (for

further description of the department, see p.27). My observations of the
department and the horticulture section in particular suggested that the staff in
this wider context were ambivalent about the new Horticultural Technology
paper. The Horticultural Technology team was, to a certain extent, perceived as
being young, arrogant and insular. At the same time, most of the remaining
members of the Horticulture group had taught the Horticultural Technology team
as undergraduates and some of these senior staff took an almost paternal interest
in the group. Moreover, they took an interest in the pedagogical features of the
paper; when the Horticultural Technology group organised a seminar to present
their ideas and teaching strategies, all other Horticulture teachers in the
department attended the seminar and many showed an active interest by asking
questions and pursuing the implications of certain teaching techniques.[54] Another
indicator of departmental support was that, despite a difficult financial situation
within the department, the paper was given a high level of resourcing,
demonstrating an act of faith or confidence in the ability of the Horticultural
Technology teaching team. The failure of the paper would have had broad
consequences for the department; dissatisfaction amongst students with the 100-
level Horticulture paper would have caused students to choose alternative
electives and majors at 200 and 300-level, which would have further damaged
the department's staff-student ratio and, hence, its funding. The department as a
whole, therefore, was placing a lot of responsibility in the hands of a small group
of zealous but relatively inexperienced staff. While members of the team did

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[54] When the teaching group were asked by the coordinator of the horticulture programmes to
provide this presentation to the Hort group, the paper coordinator noted the following in his
journal: "He believes that the others acknowledge the need for change, albeit to different degrees
of intensity, but don't know where to start. He wants us to provide that impetus, that direction,
and more importantly, the examples of what to do and what not to do... he implied that he was
more interested in hearing from [the team members] than me because they had less of a head start
than me, and so their experiences are more likely to be what the other staff will face."

"...he seemed honestly supportive of experimentation in education. He had no problems about
failures that we might or had made in the paper. I guess I should admit that I have carried a
nagging doubt that we might, rather I might, have the paper 'taken off' me if this year wasn't a
success. But that doesn't seem to be the case. [He] even acknowledged that I had more
appreciation of the educational process: he even suggested that I might consider accessing
Department of Education funding to develop/review horticultural curriculum development in
secondary schools" (3.8.95).

have wide teaching experience, they were inexperienced at teaching 100-level students, and they had no experience using the teaching techniques they proposed.

Looked at from another perspective, change was a necessity in a context where a dramatically falling undergraduate roll was damaging the department. The Horticultural Technology group saw themselves, the most junior members of the department, as taking responsibility for a change that should have been spear-headed by more senior others.

Like the social context, the practical, physical context of the group may have reinforced its identity and hence its focus. Massey University's Turitea campus is a compact settlement, encircled by a ringroad. Group meetings and much class activity took place outside these confines at the Plant Growth Unit (PGU) which is located across a main highway from the main campus, amidst a plethora of buildings owned by Crown Research Institutes (Hort Research and Grasslands) but with an outlook of fields and greenhouses which suggests an almost rural setting. Three of the teaching team worked virtually alone in this area, which may have served to increase the cohesion of the group and intensify their sense of isolation from the rest of the department. Meetings were usually held in a building close to the PGU and while some teaching (i.e. lectures) took place on the main campus, the practicals, including the on-going sunflower practical, took place in the greenhouses of the PGU.

8.2 Data collection

Data to assess the broader objectives of the paper and the writing to learn objective were collected simultaneously. Methods used were as follows:

- staff journals. All academic staff maintained a journal during their teaching time. The paper coordinator and I kept journals throughout the entire cycle. The journals were self-directed, although the group would occasionally raise, at the weekly meeting, issues to be reflected on in the individual journals.

- student journals. Students were required to maintain journals or workbooks containing a journal throughout as part of the assessment of the paper. They were encouraged to write regular, self-initiated entries for the purposes of their own learning. However, teaching staff also provided regular 'entry' requirements for the students' journals, some of which directly required students to reflect on their own learning experiences and their experiences of the teaching methods employed in the paper. Material relating to the writing to learn component of the paper was collected as part of the data collection process.

- focus groups. Focus groups were a crucial form of data collection for the group. They were conducted three times during the first cycle of the paper, and twice during the second cycle. They were made up of small groups of students, randomly selected from the class list. Because the focus groups had a dual function, i.e. to provide feedback on all aspects of the paper as well as on the writing to learn aspect, all teaching staff were invited to submit questions or to discuss with the interviewer those areas of the paper on which they wished to receive feedback. I then constructed a series of questions based on the questions and concerns of the teaching team, and conducted the focus groups as semi-structured interviews, meaning that the group discussion was not restricted only to the set questions. If students began to discuss related topics of their own concern, then these discussions were allowed to develop.

- student assignments, journals and microthemes. These were collected on a random basis (subject to consent) for reflection on the writing to learn objective of the group.

These data collection methods were followed systematically; staff and students maintained their journals as required, and focus groups were conducted as planned. Only one exception occurred: at one stage, the class wanted to give the teaching staff feedback on an aspect of the paper that was worrying them, and in this instance we conducted an unscheduled focus group. This latter event

demonstrated the students' active involvement in the course design and the flexibility of the data collection system in response to the requirements of the context.

8.3 Writing to learn/ learning to write

During the planning process, the team established its writing agendas through aims (also referred to in the planning documents as 'valued outcomes'), objectives and teaching strategies. The valued outcome relating to writing and communication was stated as follows:

"Our students will appreciate the value of written and oral communication in the learning process."

In the paper administration handbook, the relevant objective was expressed thus:

- to develop and extend your writing and oral skills both to improve your ability to communicate to different audiences and to improve your own learning.

- Note that both learning to write ("to improve your ability to communicate to different audiences") and writing to learn agendas are highlighted in this objective. This combination of writing agendas is also highlighted in our stated teaching strategies:

- By adopting a writing...policy, we will develop your writing and learning skills through a variety of writing exercises and focused assignments. A strategy of minimal marking will be employed for all written work.[55]

Part of the overall philosophy of the group was to make its teaching approach transparent to the students. We emphasised two things: first, that we were researching our own new teaching processes and pedagogy and, second, that we considered their feedback to be very important. In particular we emphasised and made clear the process of action and reflection we were engaged in as a way of modelling the action and reflection process we expected of the student group. The teaching approaches of the paper were introduced to the students in the administration guide at the beginning of the paper and this included the concept

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[55]As it turned out, the minimal marking aspect of this strategy was not pursued.

and procedures of writing to learn. The section that explains and justifies the writing to learn strategy is reproduced below. Note the way the paper coordinator first prioritises the experiences of people working in the field and then relates it to students' learning.

What is a journal?
A journal is a professional diary into which are entered ideas, observations and reflections on issues related to your work. Fruit and vegetable growers keep spray journals in which they note the type, timing and rate of the chemicals they apply to their crops. Later, they will note (reflect upon) the level of control achieved by the spray application and what future changes are necessary to achieve better control. The next time you are visiting garden open days, look for other visitors taking notes. These people are likely to be landscape designers making notes in their field journals. They may be writing about aesthetically pleasing combinations of plants of value to them in their future designs, or noting characteristics and growing conditions of plants they have not seen before. Plant scientists maintain detailed experiment journals. In these they keep records of the treatments they applied to their test plants and the plants' subsequent responses. Writing reflectively in their journal about these responses is often the trigger for the flashes of inspiration that lead onto the next set of experiments. The staff teaching this paper are all writing teaching journals. We regularly write about how our teaching is going, what topics the students are having difficulty understanding and which ones they are finding too easy, what 'worked' in the last practical and what didn't and needs improvement. Recording our thoughts and experiences in this way makes it much easier for us when we come to review the paper and plan its on-going development.
......
You will find that the immediate value of journal writing is a better understanding of the subject material of the paper. Writing is an excellent way of helping you crystallise your ideas and coherently express your understanding of a subject. Needless to say, understanding the subject material will benefit your final grade!

Taking a broader view, journal writing will help develop your ability to think intensely and productively for longer and longer periods. In addition, by completing the various writing assignments in the paper, you will become a better writer, a better communicator. Do not underestimate the importance of this benefit: ability to communicate is one of the three most important attributes employers look for in job applicants.

Note that, in the final paragraph in the passage above, both a writing to learn agenda ("journal writing will help develop your ability to think intensively and productively") and a learning to write agenda (" you will become a better writer, a better communicator") are included and that these points are again linked to the requirements of employers. In this way the intrinsic and extrinsic benefits of writing were highlighted for students.

8.4 Cycle 1: 1995

The process of developing the paper was managed through two action research cycles. The paper occupied a double semester, so the cycle length for this project was a whole year, twice as long as the cycle length for projects one and two. Two cycles of the project were run: one in 1995, the next in 1996. Thus, the first cycle overlapped with the second year of projects one and two, and the second cycle took place after projects one and two were completed.

In November 1994-95, prior to the beginning of the academic year, the teaching group ran regular planning meetings to determine the aims and objectives of the paper and of the group, including an objective relating to the writing aspect of the paper.

Throughout the academic year in 1995, teaching group meetings were held almost weekly. Each meeting assessed the previous week's achievements and planned for the following week. These meetings largely served as support for the teacher in front of the class and as practical instructions for those staff assisting in the weekly practical. They were also the site of continuous reflection. The teaching group altered teaching practices in response to immediate experience and discussion.

At the end of 1995 and into 1996, the group held several reflection/planning meetings in anticipation of the 1996 academic year.

The writing tasks that the students engaged in during cycle 1 included:

- a journal, which included teacher-directed reflection exercises, self-directed entries and microtheme assignments
- three group reports to varied audiences
- in-class exercises

Students were also expected to produce practical write-ups and to work through a series of readings; these aspects of the paper were not included as part of the writing project, but are briefly discussed in this chapter since they provide part of the context of the students' work.

8.4.1 The journal

In semester one, the journal for this paper was integrated with the journal for 19.155. Almost all the students taking Horticultural Technology were simultaneously enrolled in 19.155 for the first semester. However, the focus for the Horticultural Technology journal differed from that of 19.155. In 19.155 the journal required regular, self-directed and self-initiated entries on any topic, emphasising quantity of entries rather than quality. While Horticultural Technology also encouraged regular, self-directed and self-initiated entries, the teachers also stimulated regular journal entries. These entries were generally reflective, requiring students to respond to readings in a way directed by the teacher, or to respond to some aspect of the student's own experience in the light of the teaching material. For example, students were asked to apply aspects of the landscape module to a park in their home town, or to reflect on a horticultural experience they had had during their vacation. Or they were asked to identify their role(s) within their practical groups following the stimulation of a video on group roles and dynamics. At times we asked for specific feedback on their learning experiences, asking for analysis of how their learning was occurring, or asking them to provide feedback on some aspect of our teaching. Most of these entries were *expressive*, i.e. they were written for the self as an audience, but were still directed by the teacher.

In the first cycle microthemes (Work, 1979; Bean, Drenk and Lee, in Griffin, 1982), were included as another form of writing in the journal; thus the journal combined reflective, expressive writing and transactional writing. A microtheme, as described by Bean et al. (1982), is a very small assignment (½ – 1 page is normal) which operates on a principle of leverage "in which a small amount of writing is preceded by a great deal of thinking" (p 28). Some of the microthemes were problem or quandary based assignments. Here students were presented with

someone else's problem, and were required to write a short response to that person solving and explaining their problem. Thus the assignment combined application of subject-specific material, quandary solving (sometimes involving data collection and processing), audience analysis and use of appropriate writing style combined with concise writing (see Appendix 16: Gladus and the Pips). At other times students were asked to defend an opinion to a particular audience (see Appendix 16: Letter to the city council concerning the Esplanade), using appropriate formatting and language. Other microthemes required students to simply apply paper content and information gathered in practical classes in a new context (see Appendix 16: goals and objectives for the Esplanade).

Bean et al. (1982) discuss the benefits of microthemes as including the fact that they are politically innocuous to academics who are resistant to curriculum change and that they are pedagogically appropriate in terms of developing intellectual maturity, rewarding logical thought and assisting students in becoming active learners. We might add to this that they encourage deep as opposed to surface learning, since students are required to actively engage with the material and present it to an audience (Laurillard, 1993). Also, if they are audience-directed microthemes, as most were in this paper, they encourage students to develop audience analysis skills, audience-appropriate language skills, and the ability to express ideas concisely. The microthemes were largely *transactional,* i.e. written for a particular audience other than the student themselves.

These miniature assignments were included in the journal, as noted, and thus were absorbed into the journal mark. However, some were collected by the teacher, and feedback was given but no individual grade. This combination of genres within the journals caused considerable confusion amongst the staff. The origins of the journal as described by the paper coordinator focused more directly on reflective writing:

The journal idea came to me as I was writing the covering memo to my discussion paper on the practicals. Obviously some of Koestler's matrices did their stuff; the use of the journal seems the ideal tool to get the students to actively think about what they have seen and done and how it relates to the theory they are being directed to read. I see us

using journal-orientated writing-to-learn exercises to handle material that is either clearly reflective (e.g. discuss the changes in the way you are producing your crop that have occurred since you started) or deal with material that is slightly peripheral to the main topic, but still sufficiently important for the students to learn (e.g. the physiology of seed germination—see the Discussion paper on practicals).

The journal will be a better vehicle than the portfolio, a commonly used method of wasting students' time under the pretext of student learning. Whereas the portfolio encourages quantity of dubious quality (pictures of plants cut out of the Woman's Weekly), the journal should encourage quality because what we will be asking will be highly focused, the students will understand (because we will tell them) why they are having to do what we have asked, and why the activity will benefit them. I really like the idea of the students being 'encouraged' to read selected readings in the Library. Not only does this give them more exposure to the Library, but also it gives them exposure to the literature. The simple act of thumbing through a textbook to get to the designated pages will expose them to other 'bits' of information.

[The paper coordinator for 19.155] is happy for us to use the 19155 journal in this way. When I described how I wanted the students to use the journal, he thought ahead and pointed out that he would have to change the specifications, allowing students to use a ringbinder for a journal. This is important. Two of our goals include reference to training students to organise information and to read around the subject. We might expect students to photocopy the designated reference material. This should be incorporated into their journal. They would be permitted to use their journal in the open-book examination.

This all seems so simple, logical, and more importantly, consistent with the goals and objectives of the paper. It all seems to naturally fall into place (19.12.94).

In fact, the structure of the journal, and the relationship between the journal and the microthemes, was still being debated well into the second cycle of the paper. Later in the cycle, the paper coordinator wrote the following, reflecting on what he saw as my rigid perspective informed by the literature on journal writing:

I hope the journal is not causing the students as many problems as it is causing me. Lisa and I seem to have different views of both its inputs and outputs. ...Sometimes I started thinking that the differences between us are minor and are nothing more than pedanticism. I sense, perhaps wrongly, that Lisa thinks this way. Other times, however, I think that the differences are more fundamental and should be pursued. This is one of those times, and this is my pursuit.

If I hear/interpret Lisa correctly, journal writing is self audience writing—students are not writing to a formal audience. Consistent with this interpretation is Lisa's assertion that microtheme writing is not journal writing, as it is written to a defined audience. This is all consistent with Foulk and Hoover's paper on the use of expressive writing to improve horticultural education. The term expressive writing is a little difficult for my side of the campus. Nevertheless, these authors argue that expressive writing encourages learning more than transactional writing (e.g. laboratory reports, literature reviews, essays etc.) because it (e.w.) is not restricted by formal conventions and in being more exploratory, is likely to be more conducive to processing and learning.

My small difficulty is that I think this is rubbish. Surely in the scheme of writing to learn, any writing has value. OK, neither Lisa nor Foulk and Hoover are saying that this is the case, but to...I'm stuck. The problem is one of definition. I want to argue that the definitions used by Lisa et al. are too restrictive and don't and need not apply to the type of journal writing activities (reflective plus microthemes) we have been giving the students. Ironically, it seems that I have to invent a new definition to support my argument. Surely, from a student's point of view, the difference between self-audienced and microtheme writing is irrelevant. What matters is that the journal activity encourages the student to write (-to-learn), to reflect on past experiences or knowledge, perhaps to seek out new knowledge, and to integrate and synthesis new (to the student) meaning, and to do this on paper. I can't see much point in dismissing the use of audience-specific writing (e.g. microthemes) as being any less useful to the writer's learning experience than the more self-expressive writing I sense Lisa et al. are 'restricting' to journal writing. Perhaps the problem I am having with this whole thing is because I have not been 'bought up' with the jargon of journal writing. Maybe I don't have a pre-conceived idea about what journal writing should be. So does this make me wrong or just different? Why should we/I follow the conventions associated with journal writing? Our teaching objective was to incorporate a writing-to-learn ethos into the paper. Whether we achieve this using reflective, self-expressive writing topics or microtheme topics seems unimportant. Provided we set integrative and reflective topics, why not call it all journal writing? It will certainly be easier for the students to understand and organise.

On the other hand, does such a view cause problems for Lisa in her research? Perhaps by not following the established (conventional) use of journal writing, the rigour of any publication by Lisa involving this paper is detrimentally affected, in the same way that any of our publications would be affected if we used incorrect materials and methods.

Foulk and Procter seem to place transactional writing (laboratory reports etc.) as a restrictive writing experience. I agree. They regard expressive writing as an unrestrictive writing experience, and therefore, likely to assist in learning. I agree. But there is some middle ground that these authors, and perhaps Lisa, are not considering. That is the defined topic writing that we are giving the students. The students are still expected to reflect and synthesize as preludes to their writing. They are still writing-to-learn.

Lisa sees the microthemes being developed by the students over time. In other words, we will not ask for the completed microthemes until towards the end of the year. The students' journals should contain their drafts of these microthemes—from these we will be able to judge their writing development. Doesn't this better describe a learning-to-write rather than a writing-to-learn exercise? (paper coordinator's journal, 20.3.95)

The debate about the journal did not just confuse the paper coordinator and myself. One of the team members wrote:

[The paper coordinator] came [to class] to talk about the journal. I almost put my hand up and asked him about the relationship between the 19.155 journal and 71.122 journal. Wish I had now cause I was confused and I wonder if the students hadn't got it straight (20.3.95).

My concern was not necessarily that the journal should conform to the literature; after all, one of our key theses was that the writing programme we would

develop would be sensitive to the new context.[56] Rather, I was concerned that it should be structured as we said it would in the administration guide, as these passages from my journal illustrate.

> I still think that the way we are doing the journal in this paper, i.e., giving them definite things to do each week and including the microthemes, does not fit in with [the paper coordinator's] description to the students of what a journal is. He likened it to spray diaries and such things. In which case it is more like a log, and I suggested that next year we get them to use the journal primarily for the practicals, so that this process of planning for the sunflowers, and then reviewing their plans, can be recorded; in this way the students, like the staff, will be engaging in a n action research cycle. ...But I am concerned that we are directing students to write in a way that does not meet the original objectives of the journal; we need to go back to this, the purpose of the journal (9.4.95).

> was the focus of the exercise to write to an audience or to write to oneself? [The coordinator] said the purpose was to get them to engage with the material they were learning so that they could integrate it into their thinking. So I said that I thought that audience specific writing was more likely to do that, that learning logs were more likely to promote descriptive writing (18.7.95).

In the event, the students did not express any difficulty with the focus of the journal, following instruction as required, and this defused our debate. Further, we concluded that the reference to spray diaries etc. was a way of motivating students, not showing them what the structure of the journal would be; in this way we were able to come to terms with our 'hybrid' journal, acknowledging the two types of writing as achieving our aim ("to engage in the material they were learning so that they could integrate it into their thinking"). Thus, what could be seen as 'learning to write' exercises, e.g. the audience-focused microthemes, were also writing to learn exercises.

8.4.2 Group reports

One of the major components of the paper was the sunflower practical, which ran through the whole length of the paper. Students were divided into groups (called 'companies') and given the task of growing sunflowers during the winter months as a cash crop. The culmination of this exercise, and the major written task of the

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[56] A passage from my journal dated 26.3.95 stated "I'm excited about this aspect of the paper since very little of the literature addresses using journals in this context; mostly the focus is on the social sciences; the application of journal writing in this setting interests me; we will have a hybrid on our hands. Since the structure that has been specified is very nebulous, what form will it take?"

paper, was three group reports generated from the experience of the sunflower project. Students were required to write up their sunflower-growing experience for three specific audiences in three different forms. The first project was a chapter of a hypothetical book named *The fundamentals of horticulture* pitched at high school students on how to grow a crop of sunflowers as a way of understanding the principles of horticulture. The second was to write a report to a client on whether growing sunflowers over the winter as a cash crop was a feasible commercial proposition. The third was to write a grower blueprint on how to grow sunflowers (see Appendix 17).

The assignments, with their different audiences, tested different aspects of the students' understanding of production horticulture. The grower blueprint is a 'recipe' for growing a particular crop. This assignment examined students' awareness of the elements of growing sunflowers, requiring them to write in a direct, highly focused and concise style at a language level appropriate to a grower. The report to the client focused the problem differently: could this crop be grown for profit and, if so, how? If not, what were the reasons for this conclusion? Students were required to write in a less concise style, to argue or demonstrate a case in report format in language appropriate for the needs of a professional audience.

The chapter of a textbook required students to view the project from a third perspective. Instead of focusing on sunflowers and how to grow them, students were asked to explain how the growing of sunflowers could be used to teach the fundamentals of production horticulture; thus the conceptual level changed. We were asking the students to demonstrate that they understood the purpose of the

Fig. 8.1 The sunflower practical.

practical project and to explain that purpose. They were required to use language appropriate to a fifth form audience, a less concise style which nevertheless included step by step explanations. This particular project was also turned into a presentation to a simulated in-service course of fifth form horticulture teachers.

For each of these projects, students were provided with models of the format. Blueprints were provided in the class readings; the report structure was modelled and described for the first cycle in the *Style Manual* (Emerson, 1994) and for the second cycle in *Writing guidelines for applied science students* (Emerson and Hampton, 1996); and the groups were provided with a model of a book suitable as a school text (Larson, 1996).

Students were guided through the writing of these assignments. Since they would have been unfamiliar with group writing, we required them to appoint a student editor to the group who would pull the assignments together into an appropriate and fluent, consistent style. We provided each group with a staff member to support them through the process (including reading drafts if required), and we provided practical time for them to have group meetings and discuss progress. Each member of the group was required to take one aspect of the task (e.g. greenhouse layout) and complete that section for all three assignments, redefining the material for each task and audience.

8.4.3 In-class exercises

As far as possible, the teaching team extended writing to learn into classroom activities. These in-class activities included brainstorming sessions, mindmaps, problem solving exercises, peer-editing and journal writing during class (examples of activities are provided in appendices 14 and 15) and worksheets trialled during the landscape section (see Appendix 13). The earliest versions of the worksheets were highly structured, to guide student notes, but focus group feedback suggested students found these structures confining, and subsequent worksheets were given a looser structure. Our purpose in using in-class exercises was for students to actively engage with teacher-provided material during class time, rather than passively reproducing that material in note form during a

lecture. Again, we were aiming to achieve deep rather than surface learning, and attempting to build conceptual bridges between students' existing knowledge base and the new material they were acquiring.

Of particular interest is the mindmapping concept, which combines group writing with a visual form of learning. One staff member who introduced this concept as a critical teaching tool reflects on its development:

The second thing was use of mind maps during the brainstorm sessions ('cuse the pun!) that I have been using to start every new section (to build on the experiences within the class). I have started using them to help better organise the outcome of the brainstorm session and to better show the students where I am taking them and how the topics are linked. They seemed to have problems with [the other teaching staff] in seeing the 'big picture'. I'm hoping this might be a move in the right direction. This is a bit of a contradiction in terms: brainstorming sessions are expected to be free-for-alls, and now I'm trying to control their outcomes. But I actually think what I'm doing is more complex/subtle than that—even clever. Before the lecture, I build up my own mind map for the topics I want to discuss. When I start the brainstorm with the students, I start by placing the main topic in a box in the centre of the blackboard. I then place their responses onto the board in my 'pre-determined' positions. Words from the students that I hadn't 'planned' for, or were peripheral to the topic, or were extensions to my mind map, I placed in clear positions on the board. Once the class had finished their input, I then 'created' the mind map, by circling the terms they had provided and linking the appropriate terms together. The 'unplanned' words were then moved to better positions on the map (if these appeared). I had to think a little while before I did this, but I think this action probably made the whole process look unplanned, un-premeditated (which I think is probably important for the students—a possible danger in this approach is that the students might think they are being used or that their experiences are being somehow cheapened) [I haven't made that very clear; I just have a feeling that the technique could easily blow up in my face if a I don't manage it properly—that's it! The students might feel as thought they were being manipulated]. The last step is to take another piece of coloured chalk and re-circle those paths of the mind map that I want (them) to focus on in the lecture. Must remember to ask appropriate questions during the next round of focus groups about this approach. It's too early to tell whether it's working but 'it's worth a shot Nigel'.

This is all exciting stuff. For many reasons. First, I haven't done it before so there's the excitement of the experiment, the risk I'm taking (e.g. will they just see my mind maps as a lot of scribble on the board!). Second, I'm particularly pleased with myself because the approach is original (i.e. I haven't read about it in a book or journal and just 'trying another technique'). I remember reading in N&O (I think) that one of the most important factors involved in lecturers achieving high quality (deep) learning in their students was their (the lecturers) attitude and beliefs; that trying out techniques without attitude was often nothing more than 'going through the motions'—that the teaching experience (as experienced by the students) became a series of unconnected techniques. So what makes this stuff special for me is that it developed from within me, not from the outside. So in some ways it doesn't matter for me if it is not an outstanding success—the fact is that I think I'm starting to think like an informed educator, and not like somebody who just gives lectures. Friends of mine who have learnt a second language tell me they knew

that they had become fluent when they started dreaming in the second language. I'd like to think that I am becoming fluent in higher learning, in tertiary education.

When I described what I was doing to the HortTech team, Lisa observed that the approach I was taking with the class was a 'visual' form of writing-to-learn. I hadn't noticed this, but she's right. Although the significance of this I've yet to nut through. Does this mean I don't have to feel so bad about not showing slides in my lectures? Only kidding (sort of) (19.8.95).

8.4.4 Readings

One of the issues discussed in projects one and two was the importance of modelling different styles of writing for the students. At the beginning of this third project, this issue arose as part of group discussion and it was agreed that Horticultural Technology students would be required to use models of horticultural writings. One of the issues was recognising what sorts of writing were used by the industry, rather than focusing exclusively on types of writing with which academic teaching staff are familiar:

One reason our 100 level students did not write as well as those on her side of campus was that our students were not set sufficient reading. Thus they didn't come into sufficient contact with the genre or discourse of the discipline. Of course, this all makes perfect sense. My immediate problem/excuse for this lack of set reading is that the students can't cope with scientific literature. But as was charitably pointed out to me, there are other forms of writing in horticulture. It is not all in scientific journals. Somewhere along the way I forgot that:
(i)   All my early (degree) reading was either out of textbooks or grower journals;
(ii)   I still subscribe to and read grower journals!
(iii)   Not all of our students will progress to employment where reading scientific literature is required or serves any useful purpose.
(iv)   I find it harder writing for a grower journal than I do writing for a scientific journal (23.12.94).

The paper coordinator undertook to produce a series of readings which represented the types of writing students might need in a professional context;

these were drawn from practical, professional tasks and examples (in many instances drawn from a commercial context[57]), as well as from academic journals.

Other sets of readings were produced for the three sections of the paper by each member of the team as a resource to support other teaching activities. The need for these readings emerged following feedback from the focus groups, where students were concerned about the lack of a study guide[58]. The readings were a compromise, aiming to meet student needs without providing prescriptions, and could also be used as models by students for various exercises within the paper and in their wider degree course.

8.5 Cycle 1: Reflection

The reflection for this first cycle was an almost continuous process through staff journals and from the on-going group meetings. Feedback to the group was provided on a more formal basis when focus groups were conducted. Staff, as previously explained, were asked to provide a series of questions to address any aspect of the paper on which they required feedback. This forming of questions appears to have been a particular time of reflection for group members, since it required them to reflect on their actions and impressions and decide on information they needed or wanted. Reflection also took place at the end of the complete cycle in a more extensive way, through a series of meetings following the end of the teaching year. Prior to the end of cycle reflection meetings, I sent out letters to the wider Horticulture teaching group, asking for any feedback they

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[57] The paper coordinator noted the response of people in the industry whom he contacted for this purpose: "Today I contacted the communication sections of the Apple and Pear Marketing Board, the Kiwifruit Marketing Authority, FruitGrowers Federation, and Palmers Gardenworld to obtain examples of written communication they give to their audiences. Together with comments we received from Agriculture New Zealand, nearly all the people I spoke to commented on what a good/great idea it was to have students writing for real-life audiences (I guess that means that academics like me are dead!). Alistair Jamieson of Agriculture NZ. commented that poor writing skills had been recently identified as one of the major failings of consultants within his organisation" (22.2.95).

[58] A study guide at Massey is a course guide. Often it provides extensive material on the content of the course, either as an alternative to lectures or to reinforce lecture material, and may include key readings.

had acquired on the paper (either through their mentees,[59] or through their involvement with the paper). In each case, only one person wrote back, with the comment that he had no feedback. No other staff member responded. The reflection meetings each focused on particular aspects of the paper and its objectives, as defined by the teaching team. In preparation for the reflection I collated information from staff and student journals and from the focus groups on particular aspects of the paper. The major issues relating to writing are outlined below.

8.5.1 Microthemes and journals

Students and staff alike commented on microthemes and journals simultaneously; this reflects the fact that these two aspects of writing were collected and organised into the overall journal.

An early focus group took up the question of whether the students could see the point of doing the journal. Their comments, on the whole, were positive:

B   Oh yeah - makes you research
E   It helps you – it sort of does.
B   Makes you think about it – you're not just sitting there, writing things down off the overhead (Focus group, March 1995).

A later group discussed the time taken over the journal entries and the microthemes, suggesting we had underestimated the time students would take to complete entries. As a consequence of this feedback, the third section of the paper had a reduced number of shorter, more reflective journal entries.

Another issue of concern was the pressure of maintaining the momentum:

D   They don't always seem to serve that much of a purpose except to back up what we've just done that week – normally we get them on a Monday and they cover the last week's work – and so you could do them then. But if you're busy, flat tack, and you leave it for two weeks – the stuff you did is not there, you've got to go back, got to pull it all in and you think what?.

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[59] In the Faculty of Agricultural and Horticultural Sciences, all students are given a mentor from the academic staff.

E The thing is, you'd set aside some time, about half to three quarters of an hour on it. Just writing, writing down and looking through it – and you're not even half way through on some it – some of them are pretty full on.

C Some of the time with the journals – they'd say, this should take you an hour...two hours later you're still working on it – their time allocation was a bit naive in a way (Focus group, June, 1995).

The last focus groups of the year took place just before the exam, and here two students give fuller reflections, representing quite different perspectives:

B I found them a bit of a pain in the neck actually – oh it's good to write but it's a bit like "dear diary" – and I don't keep a diary so I didn't think it was really worth it – and then you get to [team member 2's] section and they're mini assignments – I mean, they were huge!...and just half way through the year I thought flip I'd better catch up so – during the holidays I just caught up, I did the journals. It took me – each one – a lot more time than I expected and the other thing is – I don't know, I just felt bogged down with work, you think oh why bother – I thought it was like – you know, a mosquito, buzzing around your head.

A The first ones – I found [lecturer 1's] ones, I quite liked them, I could sit down and – like you imagine a little scenario to fit in with what you're learning – like she's say imagine you were a park manager, what would you do – and you actually have to apply what you had learnt – and I found them good to help me understand what we were being taught in lectures. [Lecturer 2's] journals – yeah, I found it a bit of – a worry. I guess we always moaned but I could have gone and seen him – but I didn't. They were a totally different style, they were less – they were new things, they weren't following the lectures, you had to learn a new thing in the journal entry. You had to figure it out from the scientific journal, whatever it was and – I still don't know what the real answer is to those now, I guess I should go and see him before I hand it in. I find them really for – like my own entries, if I have a little thought in class I hardly ever actually write a proper journal entry but I think right, put it in my journal, once you get the hang of it you think of these things. Like if you're sitting there and [the lecturer] says "plastic's cheaper than glass" and you think well why is that and have a little discussion in your journal which is – I find that quite good. The time thing that people talk about, I – at the start of the last semester – I didn't sit down and think oh I'm spending a lot of time on this paper it's worth only half as much as all my others – but I did spend quite a bit of time on it...but you can't really say how much time you spend – like, I don't know how much time I'd spent on my journal

 [Lecturer 1's] ones definitely helped me put into practice what I'd learnt. And some of [lecturer 2's] ones – like the one about someone's ranch and you had to put in the objectives – it's quite good having to solve a little problem by yourself and actually think – you know you have to apply the principles and think...

B I think if we'd been told to hand them in and they're worth maybe .5% – or at least something – I would have used them, in fact I would have found them a lot more useful (Focus group, October, 1995).

This final point, of whether it would be better to regularly hand in small assignments which had a mark loading, was an issue which came up in most of the focus groups and was always hotly debated. The journal, which included the practicals and the microthemes, was worth 30% of the final grade, but some students felt strongly that each of the entries or microthemes should carry an individual mark as an incentive. Others were concerned more about the issue of feedback; because the journals were not handed in until the end of the year, some students were concerned about not knowing what standard they were working to.

The student journals themselves produced information concerning the value the students placed on journal entries, since several directed entries elicited feedback on the paper. Some students took the time to complete substantial reflections:

I can see now how they helped. [Lecturer 1's] ones were good to put the lecture material into your own context, like the one I did on the beach. I like the ones sort of role-playing. Although rewriting does take time, it's helpful but, mmmm...not really worth it. I guess it helped to get a feel of what was expected in the exam. It was good to talk about the sunflower group...

The entries I found really hard to do and did properly recently were much easier now. I think my 'sorting out' skills in reading have improved. ...Now since my papers this semester have had readings I understand more what they mean. I remember how [the lecturer] was so annoyed we hadn't read them. I think lecturers/paper coordinators always need to remember that 1st years just don't know what's what. I didn't realise the readings were part of the paper. I thought they were just details and examples. That sounds silly but I never understood more until this semester...

I really enjoyed using the journal for expanding the thoughts I have about plants. It meant that thoughts I've had before which have never been developed were developed. It's helped me put into practice the things I had to think about during the mastery exercises. But I still feel that because of the internal nature of it, it hasn't really helped a lot with the type of writing one uses at university. One thing it may have helped me with is extending my vocabulary. Because the writing is not going to be marked as an essay is marked, I maybe felt I could use words I hadn't used before.

I had an ideas based approach to journal entries, instead of a time-based one. This meant I made entries when I thought of something to write, instead of writing at a set time every week (Student journal, date not specified).

In the first half of the semester the journal supplemented our class work well, with reflective writing. Our time required for the paper was small so the journal was good. But about the time when our sunflowers started needing more work, the journal entries required more than reflective writing. The investigative reading was valuable but it started to occur when the class work was getting harder and time spent of the sunflowers was increasing...

I found the journal to improve my understanding of ideas and concepts. I think it did help my writing ability, as the two versions of many entries show. It was valuable to include the microthemes, which helped us to write to different audiences and with different formats. Overall, I feel the journal was a good learning tool (Student journal, date unspecified).

Overall I felt relatively positive about journal writing. It was a good way of expressing myself on paper and giving me a legitimate opportunity to write creatively. With all the university work, I felt that I might have missed out on my own creative writing which I have thoroughly enjoyed in the past...[this journal] gave me a good opportunity to do something I really enjoy and get credit for it (Student journal, date unspecified).

These students confirmed our aims that the students' understanding would be improved through writing the journal, and that it would also improve their writing. But we were interested to hear that it helped with other things such as creativity and vocabulary. For other students, the process was more conceptually difficult. However, even those who had most trouble grasping what was required took the initiative of reflecting on the difficulties within the journal. One student, who expressed quite strong opposition to the journal, wrote constantly, almost in stream of consciousness form, and his attempt to allow ideas to flow freely made possible new discoveries. His lengthy discussions of a whole range of topics (what horticulture is, rock climbing, adrenaline, the birth of his nephew, decisions for the future) are interspersed by sudden musings on why he was writing in the journal, and what was coming out of it for him, giving a glimpse of how he experienced the writing process:

Here I am, finally entering a piece of writing into my journal using this as a diary more than anything. A time out from what I am doing at the moment, which is avoidance of the study of algebra for tomorrow's test...

I realise I'm flitting from one topic to another, one more thing I need to watch. 16 out of 16 for my algebra test made my day, only to be shot down with my failed mastery tests. Back to assignments...

Here we go again, writing continuously. I wonder what the average amount written over 10 minutes is? Is it a task seeing how fast or slow you are? Back to horticulture, a different cross section of society who work in horticulture.

Being brought up in a household/farm environment that enjoyed?[sic] farming the living things which are there again profit orientated survival, saving, more a lifestyle getting ahead the feeling of satisfaction pleasant environment, natural, nature, having the enjoyment. I want to move up my ladder of life getting somewhere. Knowledge, learning, loving not getting stuck on the ladder not being able to proceed any further only there or going down what to do? This is one of THE (enhance) questions which has to be answered by the world as well as me. Live and life, do it now, now, now, now,

now share what you know don't be afraid easy to say about it making any sense I don't know anymore...

To write continuously for a length of time without stopping is done when writing about topics which come naturally with out much real thought that is the conclusion I've come to. If I was writing about Russian Politics of the last century would be quite difficult...

Work, Job, Enjoyment, Key Issues to think about. Still thinking make a choice soon or it will be too late, to little money, too big the debt will be.

Punctuation, getting that elusive job which you would really like but think you can never have...

Got to think about paragraphs punctuation be tidy get mind back on the topic...

I am sane (possibly?) (probably)

Please disregard last statement.

I hope you don't take to much notice of what is actually being written as I have (and probably will continue) to use this time as if it were my diary. I have been acting really stupid of late. ...Am I cut out for this? I suppose I am the only one who can answer this. By the way where do I put the ' between word's as I seem to put them everywhere. How's my punctuation and paragraphs? God I hope I pass those stupid mastery tests (Student journal, May, 1995)

These sections highlight some of the difficulties with journal writing: despite his long, interesting and reflective entries, the student constantly worries about what is required, whether he is meeting expectations, given the unusual nature of the task. He interrupts his entries with worries about punctuation and paragraphing. Another issue is that of audience: most of his writing is self-referential, but at times, as the above entry shows, he directly addresses his tutor as if the tutor were the prime audience – and in most places where the student addresses his tutor, the tutor has written direct responses to direct questions, such as the one above about apostrophes.

Another value of the journal emerged in its ability to provide feedback that could not have been gained from student observation. The journal extracts below come from the journal of a student who was consistently hostile in some classes and particularly to one staff member, was not always cooperative in her group work, and expressed strong opposition to any reflective work. Yet in her journal she provides these entries:

Finally all our sunflowers have been harvested and it is the end of the practical side of 'sub zero' [the name of a students' sunflower growing company]: I absolutely loved the practical side of horticulture technology with the growing and caring of 'our' sunflowers. It was great to get my first experience with crop production especially with such a popular crop.

It was great to have so much controll [sic] over our sunflowers. No one told us what to do or checked our progress (I mean this in a nice way). We were completely independent and that lead to great diversity in all the groups.

Every group had a different approach in producing their sunflowers.

I think the best feature of our sunflower group was our very successful sunflower density trial. Our best flowers were produced in this plot as well as learning important knowledge on the spacing of the crop. I must admit I loved growing those sunflowers. I would sometimes drive down just to have a look at how they were doing.

The thing that stands out the most when I think about my first year is how much I've changed.

My attitude towards plants has changed somewhat. I appreciate plants so much more now, colour, texture, growth and their shape. It is as if I've opened my eyes to a new world. The colours that I see are so much more beautiful than before (Student journal, date unspecified).

The members of the team were pleased with the results of the journal in achieving and going beyond its aims. However, on the basis of the debates within the teaching team about the journal, they decided during the reflection meetings to separate the 19.155 journal and the Horticultural Technology journals in the second cycle, and also to separate the reflective (self-audienced) writing and the transactional writing (i.e. microthemes) into two clearly defined tasks. Subsequent meetings decided to institute a 'workbook' which would contain three elements:

- the journal, which would include all self-reflective writing
- the microthemes
- the practical write-up

In other words, the three types of writing would be collected in separate sections of the workbook; the three sections would be bound separately, but the workbook would be given a single mark.

8.5.2 Reports

The following comments from the paper coordinator were written immediately after our marking of the reports:

> Finished marking the projects yesterday. Lisa's assessments of their writing paralleled my assessments of the content. The reports were excellent. Even the ones from some of the poorer groups were well done. But we can't take credit for the writing too much. The thought that went into the first exercise in particular was all their own. I guess we can take credit for instilling/evoking the level of commitment and dedication, the positive attitude that went into preparing the reports. One thing's for certain, the reports (and the speeches) were the fuel I needed.
>
> Next year. Well, we've got to help the students improve their blueprinting. The blueprints caused the most problems. Perhaps we could give them one or two blueprints and have them analyse the components of their style (as part of a journal exercise) (7.11.95).

The reports were jointly marked on the basis of their content and their writing skills. While some of the content of the reports was of concern to the horticulturists in the team, the teaching team considered the writing to be of a uniformly high quality. The benefits of asking each student group to provide an editor were clear in the consistent style used across the projects. Each of the projects required a shift in style, structure and focus; all were formal, but the amount of detail and the type of information included differed between projects. These shifts were managed very successfully by all groups, showing a clear understanding of different writing genres and the needs of different audiences. Although all three styles were modelled, the blueprint was the least successful of the projects across almost all groups; the teaching team speculated that this might be because this genre was least familiar to the groups, or that the students for some reason might have had more difficulty in extrapolating the conventions of writing blueprints from the examples given. The two examples provided to the students were quite different from each other; our intention had been to give the students choice, but this may, in retrospect, have been confusing when introducing new material.

While the overall mark for the sunflower reports was given by the teaching staff, the marks were weighted, according to a group self-weighting system, for each team member as a way of allowing for differences in input and commitment

amongst team members. Details of how student allocated marks for the individual grades are provided in Appendix 18.

8.5.3 In-class exercises

One of the major aims of the teaching group was to encourage active rather than passive learning. In-class exercises were one of the ways in which this approach to learning was promoted. All three teachers took their own approaches to this. The landscape lecturer prepared worksheets to guide the students' note taking, but also to include in-class group activities. While the note taking aspect was not so successful in that, on the whole, students preferred to take their own notes because this allowed them to process material in a more individual way, the students did respond positively to the in-class exercises:

C   I must admit though that when she split us into groups and we had to come up with the answers amongst ourselves I think I learnt more than...when we did it ourselves.

A   I'd rather be asked a question and then get to think about it and then other people put their views across and you can think on the same lines rather than simply sitting there thinking well, I don't really know much about that – and then just writing a few things down and getting it totally wrong, it's quite good, like, hearing what other people have in mind (Focus group, June, 1995).

In this module we included some peer-editing exercises in class, using a guided peer editing sheet (see Appendix 15) which was designed not only to give feedback to the writer but also to encourage students' critical reading skills in relation to the content and the structure of writing. While the students' comments were, generally, accurate and detailed, some problems did occur in the organisation of the exercise. A particular problem arose from our failure to establish clear guidelines about respecting other people's privacy during the editing process; one student with a specific learning disability experienced considerable distress in hearing her writing read aloud to another student. We also underestimated the amount of time required. Nevertheless, the key objectives for the exercise, for the readers and the writers, were met.

The third module included the most extensive use of in-class exercises. They became a regular feature of most classes and included visual as well as written exercises, such as mind mapping, or asking students to design a visual representation of a particular section of the module. Students spoke positively in the focus groups of this experience:

A   Yeah – you switch off otherwise – he gives you a bit of time to talk between yourselves, especially – we had some calculations to do – like for me, I couldn't get them, so to stop and talk about how to do it – it was heaps easier – then I'd go away and think can I do it by myself...

C   [with the mindmaps] you can see the inter-relationship between the thing you're studying now and something you've either just studied or are going to study – it's good cos he lets you go so far with what you think should be up there and then he fills in the gaps – he'll say rightyho, this goes here, this goes here and you go oh right – I didn't think it would. And you can relate to it – you can see how it flows on (Focus group, October, 1995).

8.5.4 Readings

The readings had a dual focus: to provide information to the students which complemented the lectures and practicals, and to model the writing styles found in horticulture and its related academic genres. The readings were bound in sets, running parallel to the paper, without commentary, and were referred to in the lectures. While some students did purchase or photocopy the readings, they do not seem to have been well used or accessed except maybe at the end of the year, just prior to the exam. Students commented that they did not realise they were an integral part of the paper; rather, they had seen them as add-ons:

I think my 'sorting out' skills in reading have improved. ...Now since my papers this semester have had readings I understand more what they mean. I remember how [the lecturer] was so annoyed we hadn't read them. I think lecturers/paper coordinators always need to remember that 1st years just don't know what's what. I didn't realise the readings were part of the paper. I thought they were just details and examples. That sounds silly but I never understood more until this semester (Student journal, date unspecified).

The staff, on the other hand, discussed in their journals how they tried to integrate the readings into the paper and their lack of success in doing this. In

particular they speculated on the difficulty of the readings and how the students might be more carefully directed in the task of reading:

Readings are too hard. Students are finding many of the readings too technical and too long (i.e. too much hard material to read). And several students were having difficulty understanding some sections of the production horticulture material (28.7.95).

The point of these comments is that it has also made me rethink about the reading/thinking skills of the Hort Tech students. While I did not expect them to make extensive use of citing the literature in writing up say their sunflower reports, I think my initial expectations of the use of literature was too high. ...In future...I need to ensure readings at a simpler level are included, and my expectations of how they might use them should be toned down. However, I believe it will also be important to extend the students. Hence, I would like to encourage the Hort. Tech students to at least start reading and interpreting some slightly scientific readings (27.10.95).

There is some space for improvement in how we present the readings to the students. Currently [the lecturer] simply assigns a reading. Read this. [They don't] give them any guidance as to what they expected to get out of the reading. What section is particularly important; what point is important to understand; what are they to gain from the reading? Not only is this helpful to the student, but in forcing the lecturer to ask those questions him/herself, we may get better, more relevant readings (12.10.95).

There were some positive comments, however:

There are some interesting thoughts about the readings. [A student] mentioned the value of the readings, but asked for more focused readings, shorter and less complex...that readings provide a sense of support. I noticed that he had searched out and taken copies of the material that I had referenced in my class handouts (8.11.95).

One of the solutions to the difficulties raised by the students was the possibility of taking the readings out of the paper and substituting a set of study guides; this approach to introducing complex material was commonly used in other 100 level papers. This option was rejected by the staff on the grounds that one of the main aims of the readings (the modelling of specific writing styles) would be lost and because of the danger of study guides becoming prescriptive and thus undermining one of the aims of the paper as entailing student discovery. Nevertheless, it was agreed that more effort would be made to introduce the students to the readings, to integrate them into the paper, and to teach the necessary reading skills more actively.

The key changes for 1996, then, in relation to the writing objectives were to separate the journal and the microthemes in order to isolate the various skills

more clearly, to give students more regular feedback on their writing by collecting individual microthemes and other writing for comments, and to increase efforts towards integrating the readings and teaching reading skills. There were also some adjustments to some in-class exercises: the worksheets for the landscape module were substantially changed to allow the students more autonomy in their note taking, for example. Apart from these minor adjustments, the second stage of the year was focused on consolidation of present strategies.

8.6 Cycle 2: 1996

The composition of the teaching team remained the same as in 1995, and the content of the paper remained essentially the same except that the second and third sections were reversed and a practical workshop on group dynamics, based on the Belbin team roles concept, was included to help students work more effectively together in the sunflower companies. More detailed management strategies were also put in place to assist groups who had members who were not contributing to the team effort.

Pressures on the teaching team changed between cycles. The writing techniques and other pedagogical aspects of the paper were adopted by the core second year horticulture paper (one of the members of the Horticultural Technology team became the paper coordinator for this second year paper), so the oppositional element of the group was, to some extent, dissipated. Furthermore, team members were asked to give presentations on the pedagogy of the paper to various academic groups, on and off campus, and the team had a paper accepted for a European conference on improving university learning (MacKay et al., 1996). In other words, the success of the experiment was recognised within the department, as also, to some extent, in the wider university context and beyond.

The teaching team were, however, less confident about the department's interest in their activities, and threw themselves instead into the task of refining their pedagogy and converting the paper into a distance (or extramural) mode. Furthermore, they applied for and won a university award for Excellence and

Innovation in Teaching. This grant provided funding for converting the paper into a web-based teaching programme that would allow the extramural and internal versions of the paper to run concurrently and interactively. While both these new approaches to the paper were of interest and adopted a writing to learn/learning to write philosophy, these innovations were not included in this project as collecting data from distance students would have been problematic.

Overall, team members appeared to be more confident in this second cycle, less in need of group support, and significantly less likely to keep their journals up to date, perhaps because there were fewer unexpected events or ideas which required reflection. Nevertheless, the team members continued to work and meet together and to refine their ideas as a group.

Data collection techniques for the second cycle were the same as for the first. The reflection process was not so continuous in this year of consolidation, with staff feeling less need for direct and constant support, although occasional meetings during the year were called on an as-needed basis. Final reflection meetings took place earlier than in the previous cycle (during exams, rather than throughout the summer) to accommodate one staff member who was taking overseas leave before Christmas. One staff member who was writing final drafts of a PhD thesis was not present for reflection.

8.6.1 Workbook – journal, microthemes and practicals.

The separation of the Horticultural Technology journal and the Communications (19.155) journal had a substantial impact on the size of students' Horticultural Technology journals and the range of entries. The freer, self-directed entries were no longer a substantial part of the journal, but the reflective sections and the microthemes, both of which were included in the workbook, still provided feedback on the students' abilities to tailor material to different audiences and to integrate their knowledge into new contexts. The focus group comments on these entries elicited the same mixed response as in the previous year with students preferring entries that required them to reflect on what they were learning in class:

> D: Well, I liked the ones that related to what we were doing. ...I'm not one to go home and look through my notes or anything like that or read them...but like one of them was like explaining what crop factor means and I went out and I looked through all my notes and in the readings, and I just made it really good and I haven't studied it since. But that's helped my understanding. ...If there were more like that, you know, just little ones, like in cropping I mean, you won't forget it, it's a way of learning (Focus group, October 1996).

Once again, students commented that they would like the microthemes and the practical write-ups to have been handed in more often for feedback or for specific marks.

8.6.2 Reports

The reports were, once again, divided into three sections, directed towards different audiences. The standard was again perceived as very high, with staff commenting positively on the quantification of the analysis (a matter which had been of concern to staff in the previous year and which had been addressed through in-class exercises) and the fact that students had written more successful blueprints than the previous year.

8.6.3 In-class exercises

In response to feedback from focus groups in the previous year, the 'worksheets' of the landscape section were freed up to allow students more flexibility in writing notes. Peer editing was not repeated because we had found it time consuming and difficult to organise (see p.259), but all teachers included in-class writing exercises such as mindmapping, brainstorming and problem solving (one, in particular, made more use of this teaching tool in his classes this year). The class responded positively when asked if they found in-class exercises and writing useful:

> C: Yes
>
> E: Definitely
>
> B: Like when we did the stuff on degree-C days, yes...
>
> A: I mean, we've already had a go at it...once you actually try it, and you'll find out if you do know it or not, and he's right there to help you if you don't know how

to do it right then. You know, it's not like you're going to leave thinking I'll sort it out tomorrow and then it kind of gets delayed to a couple of weeks...then you go back to it and you're like, oh no I can't remember

B: It was better to have written them down yourself, rather than just have a whole pile of numbers you can't really relate to...if you've got it written down then you're going back for...especially being an open book exam, you just look through and oh, that's right, I remember doing that lot (Focus group, October 1996).

A staff member reflecting at the end of the academic year on the in-class

exercises comments:

Now this year my concerted effort to develop numeracy as part of the communication expertise teaching aim has paid off. In particular I attribute the improvement to the in-class exercises where, over the entire second semester, I have repeatedly showed them what might be expected, how to do it and gave them examples for them to try and discuss in class as a class (12.10.96).

8.6.4 Readings

Much greater effort was taken to include the readings as part of class content

throughout this cycle.

In contrast to last year I have also taken to highlighting specific supplemental readings as dealing with each topic. This occurs both on the overhead projections and in the student's handouts. By discussing how the various authors deal with the topic (similar to extramural style but vocally) I hope to encourage the students to see the readings as an essential part of their learning. I am however concerned over the general lack of time in the total 7.5 hr per week available for them to do justice to these readings. To accommodate this I would like to reduce the number of lectures if possible, but I'm not sure if this is feasible (does this mean we are putting too much into the paper/lectures?). Having had the time to really read the readings this year I am more confident in using them and guiding the students to them. Writing the extramural version has helped in really getting to know what we want the students to achieve and how each of the readings contributes to this (17.7.96).

Students commented much more favourably on the readings this year, largely

because the staff had taken more effort to direct students to them at specific times

and had explained more specifically what the students should be looking for in

particular readings, although students still seemed to have problems with

motivation, sometimes still leaving the reading until just before the exam, and

not attending to the attempts by teaching staff to highlight readings in their

teaching:

A: Actually they were quite good

F: They are very good.

C: But like you know, I've only started reading them now. I'll go through and say I must read them, I must read them, but then, when I think about it, I'm going to have to reread them anyway, at this time of year.

A: Maybe if they used the reading while you're in class, if they got us to bring them along, and actually work through bits or set exercises from them, so you could actually progress through them, because I'm just looking through them now, and going wow! It makes so much sense now. This is really cool, and they're very good readings. You know, I was thinking oh yes, they may be all technical and that, but actually they're very well set out readings and they're very interesting. …They're brilliant (Focus group, October 1996).

8.7 Key issues

8.7.1 Culture change: student attitudes towards writing

Perhaps the most significant result to come out of the focus groups for this paper, from the perspective of writing, was the change in students' attitudes to the importance of communication skills to horticulturists. In the final focus group for Horticultural Technology, in its second cycle, after communication had been included in the degree curriculum for only three years, we asked students the following question:

"If you had to summarise what are, say, the top five skills that a horticulturist has to have, what would they be?"

The students answered first communication, second plant management, third a broad range of knowledge, fourth keeping up with technology and fifth innovation. This represented a dramatic change from the attitudes expressed by students enrolled in Communication in Applied Science in 1994. Clearly, communication was no longer seen as irrelevant to an applied science curriculum.

8.7.2 The blending of writing to learn and learning to write

Our original plan in developing the writing strategy was to promote a 'writing to learn' strategy with our students. In all our thoughts about designing writing strategies and objectives, we did not realise that we had included both a writing to learn and a learning to write approach. Yet once we recognised, during the debate about the journal, that we were in fact using both strategies, it seemed to us that we had a false dichotomy lodged in our thinking and that learning to write exercises, if well designed, are also writing to learn exercises. An example is the final assignment where students were asked to write a chapter of a book for fifth formers. Because the assignment asked students to write in a particular format and style, to a specific audience, it was a learning to write exercise, in that it required them to think about writing issues; but it was also a writing to learn exercise, in that it challenged the students to think laterally and to make connections about the philosophy and guiding principles of the paper. After a while, the teaching team stopped talking in terms of this dichotomy (i.e. writing to learn and learning to write), and discussed work that required students to process and work that required students to reflect. The former (writing to process) tended to be transactional, in the sense that we often used an audience to focus the students' thinking and to require them to explain issues in new ways. The reflective writing, on the other hand, was more likely to be self-audienced and often required students to think beyond what they had been doing in class. The reflective writing most closely fitted the writing to learn category, whereas the writing that focused on processing could be both writing to learn and learning to write, i.e. both elements could be present.

While most students were comfortable with reflective writing, their comments suggested that they enjoyed and thought about the transactional writing more – maybe because some microthemes such as 'Gladus and the Pips' were entertaining, with their novel audience and problem, or because they were challenging. Students' comments in focus groups suggested that they were always more responsive to things which they saw as 'useful' or vocational, i.e., the transactionally based assignments.

For staff, the idea of using a wide range of audiences was relatively new. They were excited by student responses and enthusiasm and, likewise, by the quality of the work and they were impressed by how changing an audience and format could change the focus of an assignment and bring out subtle shifts in thinking. The three assignments at the end of the year testify to the staff's grasp of how audience could be used in this way.

8.7.3 The impact of the team

One of the distinguishing features of this project was the nature of the teaching team. As we saw at the beginning of the chapter, the team was already established prior to the project. The motivation and impetus for the project were high and generated from the group, not from an outsider. Leadership also came from within the team. All the team were confident teachers and although they experienced stress and difficulties at times through the project, they persevered with all its aspects, including data collection. In project two I commented that pressure of work created difficulties for people which led to data not being collected. This team was equally stressed: two of the team members completed their PhDs during the project period as well as maintaining their teaching programmes and being involved with the project. Yet the sheer strength of motivation, leadership and group support seemed to keep the project on target.

While this project was perhaps the most time consuming of the three, I found my role in it to be the most satisfying and simple. Basically I worked as a support person to the team and as a data collector. Often I took the role in team meetings of asking questions to clarify or refine ideas. Although team meetings could be difficult and confrontational, I was sufficiently confident in my relationships with the teaching staff to engage in that confrontation and discussion. The team was, in many ways, easy to work with, since their commitment kept them actively focused. As a result, the project followed an almost perfect research cycle, with a classic pattern of planned data collection.

8.7.4 Benefits to staff – the journal and qualitative feedback

One of the most unexpected results was the benefits *to the staff* of writing a journal, and also the value to staff of detailed qualitative feedback. An example of this is provided in the following extract from one staff member's journal where he reflects on focus group feedback and subsequent discussion with another member of staff. Here the staff member reflects on some negative feedback provided by a focus group, discusses it with the paper coordinator, and then goes back to the journal to reflect further. At the end he has an understanding of an aspect of his teaching style which he did not have before *and* he has made a decision about what to do to rectify the problem:

In an effort to prepare for Hort. II I've been reading the focus group transcripts Lisa gave us yesterday. I now seem to be able to be in a more reflective frame of mind with zillions of reflective ideas popping into my head 24 hours a day (Yes 24 hours a day!). An issue arising from this, and which I have just spoken with [the paper coordinator] about (he also seems more relaxed and able to be reflective also), is that of some students feeling threatened by my questioning style in class.... Reading the focus group notes from 29/9/95, I have got the feeling that in responding to a student's reply to his question [the paper coordinator] was seen as being more supportive. In discussing this with [him] he confirmed that if the answer was 'slightly true' or out of context he was able to be more positive and say "Yes, that's correct if we were operating in this scenario, but the key issue I want to focus on here is...' Students have reported that I had a definite answer in mind and that unless they got it exactly correct then they were wrong. I think that this interpretation of my expectations is derived from my tendency to operate in this manner – if the answer was 'slightly true' or out of context I would always say 'Yes, O.K., but...' and ask another question. My intention was to get them to answer the question for themselves, by placing a new challenge or new scenario in front of them. It would appear that their interpretation of this was that 'Mary's answer was obviously wrong and I'm going to wring the bloody answer out of you guys if you like it or not!' In the focus group report the student inferred that [the paper coordinator] would give cues to answer the question. It would be easy to interpret this as '[he] gave us the answers', but I can see now that there is a definite logic in using their 'out of context answer' to be more supportive meet the learning objectives at the same time. If it is true that in constantly challenging them with ever-developing questions I tended to frighten them to the extent that they felt threatened, I need to change. It is so clear to me that getting the students actively involved in their own learning is of the UTMOST importance. Hence if I can change my technique to encourage participation even more I will succeed in improving their potential to learn (3.11.95).

This team member also used the journal for this type of reflection to look at one of his writing exercises. His concern was how to use in-class writing exercises that would not take up the whole of available class time. Once again he comes to an answer that is implementable and focuses squarely on the paper's objective:

> On most occasions my in class exercises ended up occupying the entire time period – the time sentiment that appeared to also come through with the journal entries also. Obviously I need to address this time issue. While I don't think I detected disillusionment with the effort required for or the value of my journal entries, I interpret it as suggesting that there may be more benefits to be gained through apportioning time more carefully to these. Again, the idea of not overworking them – quality learning not quantity learning. In writing the journal entries it was all too easy to say to myself 'Oh, and then they could do this, and integrate this with that, and then once they got to this they would be able to integrate these other factors too'. Consequently they became 'too big and too complex'. Now there's a nice string 'too big and too complex'. Perhaps I am always expecting too much from these guys. Especially acting as a facilitator at the end of the year, I heard them talking and freely admitting that they didn't know anything about this or that – that they had just had a lecture on 'X' in Biology of Plants and it was the first time they had ever heard of it. That really 'humbled' me in that I thought to myself 'my god! – these guys really don't know these sorts of things'. So surely the answer here is to keep the level of size and complexity small and simple, respectively. Why not leave the 'slightly bigger' and 'more complex' to Hort. II!! Oh what a ripping wee idea – I must tell the paper coordinator for Hort. II right away!! (3.11.95).

Although this team member's comments at the end are ironic, since he had been given the role of paper coordinator of Horticulture II for the following year, the comments he makes are nevertheless significant. Through reflection in his journal, he understands a problem, makes an acknowledgement of the need for progressive learning, and decides to act on it. Thus, his decisions take him beyond the bounds of this paper into the other papers that connect with and build on this one.

As well as reflecting on other aspects of the paper in their journal, staff reflected on various ways of refining their journals, the ways they could use them for improved feedback and the value of journal writing as a tool for teachers. In the following section of a journal, the writer is reflecting on the limitations of what he has written and how he could improve on his journal to improve his teaching:

> A problem or shortcoming of my journal has been a lack of quantification of issues. I have tended to use it as an interactive partner for discussing things. While this has been beneficial, my lack of quantification has limited its use for reflective purposes. e.g. I frequently make mention of my poor estimation of time for how long it will take for students to complete a task, but I don't really record how long it did take. Hence when reviewing my journal I am not too much better off for estimating the time I might require. However, at least I have noted that a problem exists (both with my time estimation and use of the journal) and in terms of the action research protocol I can now plan new actions for next year to address these issues (isn't life wonderful!) (27.10.95).

Staff also commented on how reading back in their journal helped them to track their development as teachers, and to see things in later readings of their journals that they would not have been aware of at the time. One of the aims of action research is to develop 'reflective practitioners' and the team members in this project certainly seem to have achieved this through their journal writing:

I didn't see it at the time, but I now think that one of the important steps that I took in this journey was writing about my journey so far – that is, the first thing Lisa made me write. Sure, I thought it was touchy–feely, but now I can see how it made me take a position, and once 'exposed', support that position in the light of the educational theory that I was coming into contact with. And being reasonably honest with myself, when my own beliefs were found to be wanting or unsupportable, I was prepared to accept defeat and alter my beliefs. By knowing what my beliefs were – after writing them down – provided a benchmark from which progress could be judged. And hopefully more elegantly and clearly. ...Perhaps it's being horoscopic, but when I look back at what I wrote about my journey, I used phrases such as "my understanding of how my students learn." which I now interpret as signaling my movement from taking a teacher-centred approach to learning to a student-centred approach – a facilitator of learning (11.8.95).

Another team member reflected on how he could see things in his journal which indicated how far he had come over the year; he then goes on to make a connection between the past, the journal and the future:

Since starting this journal last year I can see that it, me and how I've used it has evolved. Getting to the point where I was preparing this year's teaching made me realise the short-comings of what I wrote the year before. In particular I found I didn't always have enough detail on exactly what I did at each lecture. I suppose not enough detail was kept. This doesn't mean that in the first year the journal wasn't useful. The reflective discussion that I undertook within its confines and, just as importantly, the reflective discussions that it precipitated with [the paper coordinator] and Lisa were benefit enough. However, now in year two I am able to do 'long-term' reflection; no when I think about it now I should call it something like medium term reflection, i.e. I was able to reflect on the entire year's teaching and of course the entire year's learning by the students (and me too I suppose). I was able to enter into further reasoned arguments with myself as I now had a year's database of information. From this I was able to argue and rationalise why I should do this that or the other. And now I can perhaps look into the future and see that I should also now be able to do 'long-term' reflection, whereby every five years or whatever, I can reflect on whether there are trends in my development and that of student learning as a result of this (12.11.96).

Overall, then, team members found the experience of continuous qualitative feedback in conjunction with journal writing useful in their reflective practice: the journal could be used to identify progress, to reflect on criticism and to develop new strategies and plan for the future, and the feedback provided

immediate material for the reflective process. These findings suggest that reflective journal writing by staff can be a critical component in collaborative, interdisciplinary writing programmes in that they have a unique capacity to allow staff to inspect their own cognitive routines (Opie, pers. comm., 17.6.96).

8.7.5 Staff difficulties

Nevertheless, while journal writing and qualitative feedback were seen as valuable by the staff, they also found both aspects of the project stressful at times. An issue that arose was how to feed information from the focus groups back to the teaching team, especially if staff were apprehensive about their ability to use the new teaching techniques or if the students engaged in personal attacks on staff during focus groups. Our problem was how to feed back information without upsetting or embarrassing members of the team or making them feel defensive. We wanted staff to *learn* from the comments, and we soon realised that if the information was presented insensitively, it could achieve exactly the opposite of what was hoped for. These points led the paper coordinator, in his journal, to reflect on the idea that team management was of vital importance in an action research project such as the one we were engaged in.

It's a question of how we bring that information [from the focus groups] into the AR cycle. The more I get into this project, the more I feel that staff management is critical to how successful each AR cycle becomes. In the bad old days (pre-AR/pre-you) feedback came at the end of the year. It was often confusing and upsetting. But we would often rationalise the criticism, conclude that the students had got it wrong, and forget about it. Four months later we would start again as usual. But now, we have almost immediate feedback, lots of it, and because of the focus group system, much more objective and less open to dismissive rationalisation. We also have to face up to it much sooner, and make much more immediate change. Although I knew this was going to happen – I could read the AR diagram as well as anyone else – I didn't understand the 'stress' it was going to place the staff under. Indeed, [the other members of the teaching team] have been lucky to some extent because they haven't had to go and face up to the students immediately after feedback. So, because I'm rambling here and a finish is required, the point I'm trying to make to whoever is still awake is that I think that the feedback sequences of AR require a level of personnel management that I had not previously realised. Sure, I'm better prepared for next time, but this issue isn't dealt with in AR writing (that I have read at least) (5.6.95).

Another obvious problem for staff was the risk they took in writing and reflecting in their journals, especially when that writing was going to be made available to me, and thus, possibly, to others in the group. Like the students, staff worried that they might not be including the right material and also that they might be opening themselves up to harsh interpretation. They worked these things through in their journals, as the example below illustrates. Note the way the writer progressed from discussing his own risk to reflecting on the risks taken by others in the team and ways to alleviate their anxieties.

There are parallels here to the writing I have just completed for Lisa. My journal entries lacked 'my journey' perspectives. Too much objective analysis (my interpretation of Lisa's comments). My effort to redress the balance ("Why and how I started on this journey") did make me front up to the motivating factors influencing my decisions and actions in this journey. I hope I have articulated them properly: today I have been worried that I may be opening myself to being viewed as arrogant and calculating, instead of confidently working to a plan, albeit continuously evolving. This is the risk it seems I have been prepared to take, no doubt because of the environment (read trust) I sense with Lisa. The same lessons can be applied to how I build the environment for [the other members of the team]. It means being open with them, letting them know what I hope to get out of the paper (5.12.94).

8.8 Broader effects

The use of writing to learn strategies spread very quickly within the horticulture group. In December 1994, before the Horticultural Technology paper had begun, but while we were keeping the wider horticulture group informed of our planning, the paper coordinator wrote this:

I received three new 'learning exercises' for inclusion in the 200 level horticulture paper I have coordinated for the past 5 years. These exercises combine practical skills development/experience with written reports. All the staff had received my Hort. Tech. report, and the Hort.Tech.Update. I found new-to-this-group phrases like client-orientated report, group exercise, microtheme, advisory memo, technical report, and well-defined aims and objectives, more than I have ever seen before. Never before have I seen so much attention being given to defining the audience of the written output (20.12.94).

At the beginning of 1996, one of the teaching team for Horticultural Technology took over the paper coordinator's position for Horticulture II, and so the writing to learn strategies (including microthemes and in class exercises such as mindmapping) became incorporated into that paper. Because that paper was team

taught, far more members of the Horticulture group became exposed to this style of teaching. At the end of 1997 a proposal was put before the Horticulture group to teach 300 level papers according to a new pedagogy which included writing to learn, and this was accepted in 1998. Hence, using writing as a learning strategy became a part of the core horticulture course within four years.

The impact of this project on the wider group was, therefore, substantial. As the extramural and web-based versions were developed over the following years, the writing strategies were included in these versions and then spread to other extramural papers. Members of the group ran staff development workshops for the university's teaching development unit (TDU) on the use of writing and active learning strategies to stimulate learning; they also published in national and international journals on aspects of the paper. Thus, this project moved beyond the immediate context to influence the wider academic and research environment. The implications of this are taken up in the chapter that follows.

8.9 Conclusions

Starting a year after projects one and two, this project built on the lessons learnt from the other projects. Unlike the teams in projects one and two, therefore, the team was able to base its decisions on practical and immediate experience as well as on the literature on the topic. If we look at the overall research question, i.e., how can we effectively teach writing in the disciplines, in the light of this project, we can see three important findings.

First, because the students taking this paper had already completed, or were also enrolled in, other papers which had a strong writing component, they were less resistant to seeing writing as part of the curriculum and more able to see the relevance of communication to their professional development. This confirms the notion (see, for example, Holyoak, 1998) that, for students to learn and value writing or communication in their discipline, writing needs to be integrated into more than a single paper.

Second, students responded well to assignments which were transactional, in that they were written to a particular audience, but which also had a 'writing to learn' component. From the beginning, this project focused more on writing to learn than on learning to write, but over time the project team moved to combine these two categories into what we called 'writing to process' assignments, i.e., assignments with a specified audience which required students to think about structure and style, but which also challenged students to engage with course material in new ways. The key to this particular kind of assignment was the audience, which, when chosen carefully, could be used to require students to think about content in a specific manner.

Third, this project showed that it is easier and more effective to integrate writing into a new curriculum than simply to add writing to an existing paper. In project two we focused on redesigning the assignments or on marking existing assignments differently. But in this project, because writing was central to the paper's pedagogy, it could be incorporated into every activity in the paper, including practical work and lectures. Thus, as some of the comments in the focus groups show, students were more likely to see writing as a way of learning about the content of the paper, rather than solely as a form of assessment.

To sum up, then, this project suggests that we can integrate the teaching of writing into the disciplines most effectively when writing is incorporated into more than a single paper (a 'through the discipline' approach), when we incorporate both writing to learn and learning to write approaches into carefully designed assignments, and when we integrate writing into the very core of a paper's pedagogy, preferably at the beginning of the paper's design, rather than simply adding writing to an existing curriculum and pedagogy.

The secondary research questions concern whether action research was an effective method for integrating writing into the curriculum. In this project the answer has to be an unqualified "yes". Action research provided us with a process for implementing and evaluating our ideas, for correcting our mistakes and for resolving our confusions. It allowed us to work effectively as a team and

to combine the strengths and expertise of the academic staff and the writing consultant.

Why was action research so successfully applied in this project? Primarily, I think the answer lies with the sheer focus, commitment and rigour of the project team. They wanted to do more than teach a new course; they wanted to trial a new pedagogical approach and evaluate it carefully. Another factor may have been the team's openness to new ideas from each other: for example, while there was constant deploring of the 'touchy-feely' ideas I suggested, such as analysing process in the journals and investigating team roles, once the team decided to test out these ideas they committed to them with a will. Another factor may have been the staff journals which most of the staff found to be a useful professional learning tool. A final factor may have been the single focus of the project. Unlike project two, which had a very diffused focus, this project concentrated on a single paper and it was therefore simpler to ensure, through the regular group meetings, that data was collected and that team members followed up their commitments.

There is one final comment to make about the use of action research. Action research produced a quite unexpected spin-off in this project. While the staff were committed to a collaborative process of developing the paper, the action research process also allowed the students to become very engaged in this development. One of the things we were committed to was modelling to the students the sorts of learning activities we were asking them to engage in. So, for example, staff would talk in class about things they had written in their journals, and when the class needed to do some team analysis, we too undertook a formal team analysis and showed our results to the students. We also explained from the beginning that we were testing out a new teaching style and that we would value their feedback and their thoughts. What we had not expected was that students would so actively engage with us in this process, to the extent that they would request to be included in focus group interviews and, at one point, asked to do an unscheduled focus group because they had some concerns about the paper. Action research, therefore, allowed us an unexpected aspect to our collaboration – the full involvement of many of our students in this learning experience.

This project achieved much of what we aimed for. But part of the excitement of participating in this project involved the unexpected – the intense and active involvement of our students in our learning experience, the richness and thoughtfulness of student and staff journals, our debates about journals and assignment audiences. Much of this can be attributed to an open and enquiring teaching team and to the action research process, which has the flexibility and the rigour to allow for and embrace all contingencies.

Section Four: Implications for WAC in a New Zealand Context

Chapter 9. Writing across the curriculum in a New Zealand context

This study began with a quotation from Janet Holst concerning the 'schizophrenia' manifest in New Zealand universities' attitudes to writing in the university:

> There's this schizophrenic institution that...exists on writing, and careers are structured on writing and the whole system, everything is based on writing. ...and yet any work with that kind of writing is seen as very low level, or ghetto, or, what is increasingly legitimately called in the literature, shitwork (J. Holst, 21.5.96).

I take schizophrenia in this context to indicate a skewed or inaccurate perception of reality: an inability to distinguish between reality and fantasy. Or we might see schizophrenia in this context as indicating a propensity to hold two conflicting attitudes simultaneously. This sustaining of conflicting attitudes has been manifest in many ways throughout this study. Students struggle with how to write in the university, while loudly claiming that they should not have to deal with this, that they came to university to learn science/business/sociology, not writing skills. Academic staff bemoan students' skills (or lack of skills) but refuse to teach those skills. Writing teachers try to untangle the ambiguities of their role while trying to work with the casualties, at the same time dismissing student feedback – "you are not teaching us the right stuff!" – as irrelevant. An English Department can be commissioned by the senior management of a degree programme to teach writing to a group of students on the grounds that only English have the credible skills to do this, when it is apparent that students and staff from the discipline are dissatisfied with the results. Employers give consistent messages to the universities that graduates are emerging from their degree programmes without appropriate communication skills – yet universities do not seem to be able to hear this message, and if they do respond, they appoint staff into general or casual staff positions where they are paid at the lowest

possible rate and often denied, either directly or indirectly, the privileges of academic staff.

Universities in North America, as we have seen, have seemed to be a little more ready to address realities – students do not have the necessary skills, students need to learn new writing skills at tertiary level, employers want high-level communication skills – as they have been grappling with this problem for a century by directly integrating writing, through a variety of structures, into their curriculum. In Australia too, reality seems to be striking home and universities have begun to address the issue of student writing by developing policies on teaching communication and generic skills (Drury and Taylor, 1996; Baldauf, 1997; Catterall and Martins, 1997; Parker, 1997). New Zealand universities' awareness of the real need to teach students appropriate writing skills is lagging behind, although in the last fifteen years writing papers and learning centres have emerged, in an ad hoc manner, to work with student writing skills. None of these New Zealand initiatives address the issue of writing for all students and the attitudes of students, academic staff and management seem to be unchanged. There is still a cringe factor involved in teaching writing in the universities – a sense that we really should not be doing this.

So we have this schizophrenic institution. And while we can say that New Zealand is slow to adjust its perspective, we cannot say that this schizophrenia is confined to New Zealand. Despite the focus on writing in the curriculum in North America, plenty of articles discuss the lowliness of writing teachers, the resistance of students, the marginality of writing in the curriculum. Across the Tasman, a 1996 article entitled "Teaching communication skills through stealth and trickery" discusses embedding writing into a course so that students are not aware that they are learning to write: "so there is a sugar-coating applied to this strong medicine: and, like Sultana Bran, if you don't tell them it's good for them they eat it by the boxful" (Whitbread, 1996, p.33). Yet why should such an approach be taken: why do we need to integrate writing into the curriculum by devious means? Employers tell us they want students who can communicate – and students surely want to be employable by the time they have accumulated a student debt.

This study was generated by managers and academics from the Faculty of Agricultural and Horticultural Sciences looking past their preconceptions of reality and how it should be, and instead focusing squarely on what was needed in the face of changing career opportunities for agriculture and horticulture students and the messages being given to the faculty by employers. Many clear messages came through from employers, one of which was that students in this field needed to be able to communicate, in both written and oral form. These were realities: graduates needed to be able to communicate, most of them were not meeting required standards in this area, and therefore the two approaches being used in the faculty to date were probably not achieving their objectives.

This is where we started from; we wanted to change the curriculum to include communication skills, and we wanted to do it directly, not by "stealth and trickery". What we did not realise when we started, but what became very clear to us as we progressed, was that on the way to curriculum change, we had to change other things: student attitudes to writing and communication, staff attitudes to teaching writing, relationships between applied science teachers and writing teachers. We had to adjust our preconceptions of one another and how we could work together. And in this process of change we also experienced changes of perception and increased understanding of how the university both nurtures and fails to nurture curriculum change.

We implemented and monitored these changes through an action research process. This chapter is the final reflection on the programmes implemented here – the last of many reflective processes. This first part of this chapter looks at each of the projects and considers how they fitted into the literature on writing across the curriculum: how did our models compare with those overseas? The second part looks at the change process: what changes did we hope to achieve and what change issues arose on the way? What were the indicators of whether we achieved those changes? The third part looks at action research and whether it was an effective and appropriate method for achieving change. And finally, the focus of the chapter broadens to consider whether the method we used to integrate writing into the curriculum is an effective model which could be used

more broadly by the university to get beyond its schizophrenic vision and to integrate writing across the whole curriculum.

9.1 Connecting to the literature: changes to the curriculum

WAC is about curriculum change. This was the overall principal aim of this study: to integrate writing into the applied science curriculum. Chapters two and five of this study opened with quotations from Elaine Maimon about how WAC programmes needed to be firmly grounded in their own context and adapted to fit each home campus. This section considers how each of the projects 'fitted into' the literature on writing across the curriculum and whether changes to the curriculum were achieved.

9.1.1 Project one

The initial focus of the writing across the curriculum initiative in the Faculty of Agricultural and Horticultural Sciences was project one: the development of a writing/communication paper for applied science students. The method used was a collaborative, interdisciplinary venture between applied science teachers and a writing teacher. The advantages of such a model of integrating writing into the curriculum are discussed fully in chapter four, pp.103–106, but, in summary, collaborative, interdisciplinary models:

- combine the skills of specialist writing teachers and subject specialists
- emphasise subject specialists initiating students into the language of their discipline
- acknowledge writing as a way of learning within a discipline
- acknowledge the need for modelling
- focus directly on student needs
- establish bonds between departments and the English Department
- produce opportunities for staff development through reflection and interaction and the sharing of ideas
- help students to see the connectedness of writing and science

- expose students to a variety of role models (Austin and Baldwin, 1991; Kuriloff, 1992; Gardner and Sutherland, 1997).

Many of these issues were important as we developed the writing paper. We hoped to use the combined skills of the writing teacher and the science teachers synergistically, to produce a paper which neither party could have created on their own (Kuriloff, 1992). A further outcome which we hoped for was that, because we would be focusing on skills the students really needed and because we could model the necessary writing styles, students would be less resistant to learning writing/communication skills, and that they would see these skills as a part of their professional development.

By the end of the third cycle of project one, 19.155 was established as a permanent part of the generic first year of the B.Appl.Sci. As I write this chapter, three years after the project was completed, the paper is still part of the degree – and its mandate has expanded: it is now a compulsory part of not only the B.Appl.Sci, but also the BSc and BMLS programmes, and next year (2000) it will also be compulsory for B.Tech students. The paper is still taught by academics in the sciences, but the team has changed to ensure that BSc teachers are teaching BSc students, for example, so that students are seeing appropriate models and using accurate professional genres as part of their programme.

We can say, then, that the collaborative team brought together for project one was successful in effecting long-term change in the B.Appl.Sci and in the broader science curriculum.

9.1.2 Project two

Project two emerged from project one and from my own research interests. Again, I had a strong concern to change the curriculum by integrating writing more broadly into the curriculum, speculating that a 12-week paper could not make a major difference to student writing or attitudes to writing. Rather, the lessons learnt in 19.155 needed to be extended into other papers so that students would receive regular and consistent messages about the importance of writing to

their professional development. The Department of Agricultural and Horticultural Systems Management, which took on this project, was keen to extend the programme across the whole faculty, but because of staffing limitations and the need to evaluate the programme,[57] the faculty management team decided to use the department to trial the programme first.

This project used a writing intensive approach to teaching writing in the disciplines (see chapter four, p.93), in that certain papers became writing intensive. They used writing extensively for purposes of both learning and assessment, and they were taught by subject specialists. The extensiveness of the project was unusual and most closely conforms to the model in Holyoak's 1998 paper "Writing throughout the biology curriculum", although, of course, we did not have access to this article when we were designing and implementing this programme. Holyoak's approach saw all biology teachers in his department involved in planning and implementing a writing strategy, and all papers taught through the department including a writing component. This is what we aimed for in this project, although, since involvement was optional, not all papers in the department were involved.

The advantages of such an approach are that the importance of writing/communication skills is strongly modelled for students by staff who are involved in their field of study and that writing and learning are integrally connected (Dawson, 1996). The disadvantages are:

- subject specialists may lack confidence
- staff may not be sufficiently trained
- the position of composition specialists is weakened
- the programme may be difficult to administer
- commitment and leadership may be difficult to find

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[57] I was asked to design and monitor a writing programme for the whole Faculty but because I was not employed by the Faculty, and indeed, was required to fulfil the requirements of another full time position, I could not undertake such an extensive programme.

- staff may be disadvantaged by their involvement in a time consuming project focused on teaching rather than research

- students from different disciplines may lack the ability to communicate with each other or with a general audience (Kinneavy, 1983; Hutchinson, 1993; Pemberton, 1995; Chapman, 1997)

We hoped to alleviate some of these difficulties by using an interdisciplinary approach, once again, which combined the skills of a writing teacher with the skills of the subject specialists: thus we aimed to overcome the problems of staff confidence, training and motivation. We also hoped that, because we had a central person administrating the process and collecting data, the focus of the project would not become too diffuse.

Despite these endeavours, many of these problems still occurred in this project. Commitment and leadership from the whole group was difficult to attain although individual department members put much time and effort into their individual papers. Staff confidence was not high, despite the impression given during individual interviews, and staff were still struggling with some of the concepts right to the end of the final cycle. And the programme proved difficult to administer, despite having a central person to coordinate action; this may have been due to me taking on a role (i.e. collaborator) which did not have sufficient authority or to the lack of time I had to commit to that role. As discussed in chapter seven, this project might have had a greater impact if I had taken on the role of consultant and if I had had more time to act as a resource for the group.

Three years on, this project does not appear to have had a long-term effect on the curriculum. All the same, some members of the group continue individually to experiment with different writing to learn and learning to write genres of student assignments.

9.1.3 Project three

Project three took a different approach to designing a writing intensive course. Instead of taking a "throughout the curriculum" approach (Holyoak, 1998), this project focused on integrating writing to learn as well as writing in the discipline

project focused on integrating writing to learn as well as writing in the discipline strategies into a single paper. Unlike project two, where writing was integrated into existing papers, this project focused on developing a new paper as writing intensive. The advantages and disadvantages of such an approach are similar to those in project two, except that, as the focus of the project was far narrower, problems of administration and leadership were less of an issue. Once again, we took an interdisciplinary approach as a way of combining our varied skills.

Ironically, although this project focused more narrowly on an individual paper, it has had a greater long-term impact on the curriculum and a greater flow-on effect than project two. As indicated at the end of chapter eight, the bigger horticulture group redesigned its 200 and 300 level papers in line with the 100 level paper in the following years and integrated the writing to learn/ learning to write strategies into all the core papers, including extramural versions of these papers.

Interestingly, although the group for project three refocused its strategies to discuss 'writing to process and writing to reflect', rather than 'writing to learn and learning to write' (see p.267), the term 'writing to learn' has been carried forward to describe the writing activities used in these new papers. In other words, the original terminology has been perpetuated.

Long-term and extensive curriculum change was achieved through two of the projects in this study, and elements of curriculum change have been maintained by individuals engaged in project two. Thus we may say that we achieved our principal aim. But in addition, as indicated in the introduction to this chapter, we identified, during the actioning of these projects, other forms of change that we needed to achieve. The next section looks at the impact of the projects on staff attitudes to themselves as teachers of writing.

9.2 Staff changes

The projects that were a part of this study took the position that the best people to teach students to write in their discipline were content teachers, rather than

English teachers, and that a writing teacher as collaborator in the programme could support academic staff as they trained themselves to teach writing in their field. This section looks at each project in turn and considers whether staff from the applied sciences did prove to be effective teachers of writing in the curriculum and whether their confidence in their role increased during the projects. Staff confidence and development are critical factors in assessing WAC programmes, since programmes are only likely to persist if staff found their involvement in the programme satisfying:

> Faculty 'retention', that is, the likelihood that faculty members will persist in using writing to teach their courses, depends as heavily on the satisfaction of faculty members as on any measure of student outcomes (Smith and Farris, 1997, p.183).

9.2.1 Project one

Project one suggests that staff from the disciplines can develop the skills to directly teach communication/writing skills to their students. This project required a considerable change in focus and professional development of staff.

This project required staff to undertake a continued process of reflection, to become aware of their own cognitive routines in order to directly teach a paper on applied science writing. The debate within the group, which emerged late in the first cycle and persisted for the rest of the project, concerning the dominance of science vs. business writing and the elements of those genres, demonstrates staff awareness of and focus on their cognitive routines. By the end of cycle 1, most staff were more confident in their discussions of what constituted good writing in their disciplines, and by the end of their second cycle were discussing using similar teaching techniques in their other papers. They were also confident enough to suggest that they had been able to produce a paper that was more suited to the needs of their students than staff in the English Department (see staff comment in chapter six, p.162).

Overall, staff comments indicated a considerable shift in confidence and in the placing of expertise. As we have seen, there was considerable doubt at the

beginning of the first cycle as to whether staff from the faculty were capable of teaching this paper and whether it would have been better to have left it in the hands of the more credible English Department. By the end of the third cycle, staff were confident enough to object to a sense of ownership being taken away from them through a more controlling approach by the paper coordinator.

At the same time, we should emphasise the limitations to these statements of confidence and the difficulties through the cycles. Confidence and competence were not easily, instantly and spontaneously achieved. Members of the teaching team gained confidence through continuous group support, through the 'resources available' (e.g., a writing consultant) and through a process that allowed the group to continually develop and refine their work. Furthermore, some members of the group did not develop confidence or skills at teaching writing. These teachers had several qualities in common: they tended not to have volunteered to teach the paper, most did not have an interest in writing, and some identified themselves as having poor writing skills. Such group members only taught for one cycle and did not involve themselves in the on-going development of the project. Another limitation was that members of the group, while competent in teaching forms and styles of writing, were not comfortable, at the end of the project, teaching some generic skills such as punctuation: these were taught by one group member and the writing consultant.

This project, we may surmise, allowed teachers who had an active interest in writing, who volunteered to teach the paper, and who were not themselves identified as 'poor writers' to see themselves, at the end of three semesters (cycles) as competent teachers of writing/communication in their discipline(s), given appropriate resources, support and opportunities for on-going reflection.

9.2.2 Project two

Project two is more complex to analyse and more difficult to assess – partly because the data collection was inconsistent, partly because the project was broader, including a number of papers, not just one.

Ostensibly all staff from the department were involved in the project, and all were present at the initial planning stage; but by implementation only half the staff were participating. Furthermore, staff from other departments, who had not been part of the planning process but were co-teaching papers with members of the department, were involved. It is harder, therefore, to identify a consistent group whose development could be assessed.

Individuals in the group who participated showed development in their understanding of the genres and styles they required of students through the cycles. A number of the staff who were involved in designing the marking schedule made the decision to shift the focus of the project from grammar to style, through an increased recognition and ability to articulate their real concerns; members of the group spontaneously decided to use writing to learn techniques in the second year of the project and to experiment with different assignment structures (such as in Horticultural Systems).

Nevertheless, interviews at the end of the project cycles still indicated that staff were unsure with their use of WID techniques, with assessment of style, and with the use of double-assessment (i.e. with resubmitted assignments and how to grade and comment on them). All comments were tentative, with an indication that more work was needed to develop staff confidence in teaching writing in context and in using different techniques.

A number of factors may have militated against this project. First, many of the staff were not confident writers themselves (Pemberton, 1995). Second, the group had problems with cohesion (Waldo, 1993), so much so that it appeared towards the end of the project that there was not a group working together, but a series of separate paper coordinators implementing the programme in different, individual ways. Third, the group had a pedagogical debate within the department (i.e. what was systems and how should it be taught?) which was far more significant to the group than how to integrate writing into the curriculum. Fourth, unlike projects one and three, where a paper was being developed from scratch, most of the papers which were a part of this project were already in existence; this meant that writing was being superimposed on them, rather than

being an integral part of the pedagogical structure (Watson, 1996). Fifth, the focus of this project was more dispersed than projects one and three, which concentrated on the development of single papers (Waldo, 1993). And, finally, this project was initiated not from the department but from myself, the writing consultant, which may suggest that a focus on writing was not such a primary concern for this group.

Another factor that may have limited the success of the project was lack of staff support and leadership in relation to the writing project. There are definite indications that staff would have responded positively to more directive support from a consultant, rather than a collaborator, that they were looking for more guidance with the project than I provided. This may relate to the fact that I initiated the project and that staff lacked confidence as writers.

So, while gains were made in this project in terms of staff development and increased use of WAC techniques, the confidence and commitment of staff was generally lower at the end of the final cycle than that of the other groups.

9.2.3 Project three

Significant features of project three were the continuous reflection through journal writing of all members of the team and the consistent development and use of writing to learn and writing in the discipline techniques throughout the project.

At the end of the final cycle, staff were enthusiastic and confident in their use of WAC techniques which were fully integrated into their paper. Staff were able to debate the use and modification of these techniques and to model and actively teach writing features. They were also using these techniques in other papers they were developing and were teaching the techniques to other members of their department and to members of the wider university community.

Factors which contributed to their success included the strong leadership and vision in the group, the commitment of members to the leader's vision, strong

group cohesion, and the fact that most members of this group were confident and experienced writers. Another critical factor that may have contributed to team members' confidence was careful management of student feedback, to ensure staff were not discouraged by unconstructive feedback. But a major factor identified by the group was the value of the journal as a reflective tool for professional development.

9.2.4 Critical factors

So, what are the indications for the wider application of a WAC programme, using the model developed for these projects, for developing academic staff as teachers of writing?

First, it is clear that this model of WAC may be less successful where it is imposed on staff, where teaching writing is not perceived as being a primary professional concern, and where staff do not perceive themselves as confident writers.

Second, it may be less successful when WAC techniques are added to existing papers, rather than integrated into new papers. As was illustrated in project two, it is hard to break established teaching patterns; it is much easier to develop a new pedagogy when designing a new paper.

Factors that may indicate success are strong leadership and vision from a staff member within the discipline (although, interestingly, in project one, strong leadership worked against the project), group cohesion (although project one again illustrated that this can be built through a WAC project in certain circumstances, even where pedagogical differences are evident), and team members who are confident writers or who have a strong commitment to teaching writing.

There is an indication that where staff are lacking in confidence as writers, they may benefit from a more directive and extensive form of support from a writing consultant than was available in this study.

9.3 Changes to student attitudes

A further aim of the projects, as they developed, was the need to change students' attitudes to the placing of writing in the curriculum. It is difficult to differentiate between the projects in terms of assessing students' attitudes to writing, since students were often involved in more than one project: this section, therefore, looks at the development of students over time, rather than through individual projects.

Student resistance to attending writing classes taught by English departments is well documented (see, for example, Dawson, 1996; Morgan, 1997), and was certainly confirmed by my experience prior to the development of these projects (see chapter one). In 1994, the first year of this study, writing taught by subject specialists rather than the English Department was introduced into the curriculum of the B.Appli.Sci. through the Communications in Applied Science paper (project one) and through the WAC programme in the Department of Agricultural and Horticultural Systems Management (project two).

Student resistance in the first cycle was very high in both projects. Students argued that they did not come to university to study English, that communication was irrelevant to many of their future careers. Their behaviour in, and attendance at, lectures was poor and their completion of some writing to learn tasks, such as the journal, was considered by staff to be substandard. Students were unlikely to attend voluntary workshops or one-to-one consultations at the Writing Centre, they objected strongly in many instances to a marking schedule which penalised for poor writing skills, and they resisted anything that focused totally on technical writing issues such as grammar or punctuation.

There were a number of causes for this resistance. Firstly, as indicated in the case studies, the student group in this first year was abnormal, including students transferring from other degree programmes. Secondly, for some students this was the first time they had encountered writing in the curriculum: innovations take time to bed down and for students who suddenly encountered WAC in their second or third year papers (as in some cases in project two) this was an

unexpected change of emphasis which was considered unfair. Thirdly, we made mistakes in the first year: for example, the marking schedule for project two was too punitive; we did not realise that we needed to give the students far more direction if we wanted them to use journals effectively (it was not enough to say "just write!" in a culture which was unfamiliar with journals as a genre); we needed to link writing activities more closely to the professional genres students would experience outside the university in their professional lives.

1995 was the second year of projects one and two and the first year of project three. Students in project one in 1995 showed far less resistance to the paper than in the previous year; such a shift in attitude might be attributed to a changed class composition (i.e. not so many transferring and senior students), a more established structure to the paper and more experienced tutors. We also introduced a new theme into the paper, i.e. the relevance of communication skills to applied science students. Part of this theme included inviting employers from the industry to talk during lecture time about what they were looking for in the students they employed. Students responded very positively, seeing these visiting speakers as highly credible advocates of the importance of communication skills. Students were, in this year, far less likely to argue that the paper was 'irrelevant'. More direction to the writing to learn activities such as the journal also saw more commitment and input in the journals.

Student attitudes in project two showed the strongest shift in attitude. Students in project two in 1995 had already experienced a first year (in 1994) where writing skills were emphasised; project two focused on second year students in 1995 and these students had completed 19.155 the previous year and experienced a WAC initiative in 19.152, Agriculture and Society. This meant that not only were they familiar with writing in the curriculum, but they also likely to own resources such as the Style Manual, the 19.155 text (Newby, 1989), dictionaries, and 19.155 resource material. In short, they were more prepared.

A second factor that may have influenced student attitudes to the integration of writing into the curriculum in project two was that the approach taken was far more supportive and positive in the previous year: an attempt was made to

introduce modelling, writing to learn activities increased and the focus on resubmission was more positively structured than in the first year.

Nevertheless, an on-going issue for students in project two in 1995 was the need for more support for their writing. Ideally, students needed access to a fully available writing consultant if they were to take full advantage of the writing emphasis in their papers; this was not an option in the environment of this project.

Project three was in its first year in 1995. Students enrolled in this paper were taking 19.155 concurrently as well as 19.152, which, while no longer part of project two, still had the writing features established in 1994 embedded in it. They were, therefore, experiencing the inclusion of writing into the curriculum more broadly than in a single paper.

Student resistance to integrating writing into the curriculum was never an issue in this project. Student comments on the journal and the microthemes, in terms of their contribution to learning, were generally positive. Even so, students made comments about the amount of work involved and staff inability to estimate how long it would take them to complete microtheme activities. They also provided valuable feedback on how to improve writing to learn activities.

In the final (third) year of the programme, only project three continued as part of this study (the other projects were still operating but were no longer being assessed through this research). As in the previous year, student feedback was positive and constructive.

At the end of the final cycle, students in a final focus group rated communication skills as the most important skill for a horticulturist. While it is not possible to suppose that all students would have prioritised communication as the most important skill, this does suggest that students in the class would have rated communication highly, as amongst the most important skills. Clearly, within three years a considerable attitude shift had occurred amongst students in the programme: from extensive resistance and rejection of writing in the curriculum

to acceptance of writing and communication as amongst the key skills required in their profession.

The data collected in this study indicate that student attitudes to integrating writing into the curriculum can be positively influenced by an extensive WAC programme. However, it does seem clear that students need to have credible sources explaining to them the relevance of communication or communication strategies to their studies (for example, the use of employers in project one or the description of the journal in project three). On the whole, staff from the disciplines in this study seemed adept at choosing strategies and sources appropriate to the context. Also, writing has to be integrated into more than a single paper: as the participants in project two stressed, WAC needs to be integrated across, or in Holyoak's (1998) words, throughout the curriculum for students to value the relevance of communication to their discipline. A further factor that must also be stressed is student support. In project three (and to some extent in projects one and two) academic staff spent considerable time and effort in support of students when they were completing key assignments (in the final group assignments in project three, for example, each group had a staff advisor). Whether this is feasible in the long term, and whether it is appropriate for academic staff to spend so much of their time on student support, is questionable. Were a university-wide WAC programme to be developed, a writing centre or a learning centre, which offered individual or group writing support to all students, might be an essential resource.

Another key factor that may have influenced student acceptance of writing in the curriculum was staff use of 'real' genres, i.e.. professional genres which students would experience in their future professional lives. Staff became more confident, over the three years, in using professional genres as writing assignments, e.g., grower blueprints and reports to real farmers (who the students met and whose farms they investigated through field trips), and students responded very positively to these assignments. Writing in an applied science context is far more likely to be based on a practical experience (e.g., a visit to a farm, work in a greenhouse) than on text-based experience, and staff from the discipline were both professional users of the genres and familiar with the rhetorical moves

required by such assignments. Writing teachers from outside the discipline are far less likely to be aware of the different genres, or the bases of writing in the disciplines, or the required rhetorical features. We may suggest, therefore, that students responded more positively to this approach to writing in the disciplines (i.e., taught by subject-specific staff) because of both the credibility of these staff as writers and as professional practitioners, and the staff's ability to design assignments which students experienced as preparation for their professional lives.

Another issue that needs to be highlighted is the importance of student feedback. While staff may receive overt feedback on issues which students feel very strongly about in the normal course of events, for student attitudes to be monitored and attended to, qualitative, in-depth student feedback is required. This feedback needs to be carefully managed by leaders and it needs to be provided in a non-threatening structure. This issue is discussed further in a later section of this chapter.

Continuous assessment of student attitudes and responses, through journal entries and focus groups, allowed staff, through their own reflection process, to adapt their strategies and approaches to show students the value and relevance of writing in the applied science discipline(s). Staff demonstrated a shrewd ability to adjust the curriculum in a way which applied science students would respond to. Consequently, students' attitudes to writing in the curriculum showed a definite shift through the three-year period, from strong resistance to an acceptance of communication skills as amongst the most important for their professional development.

9.4 Institutional issues

We may conclude from these projects, then, that staff in the disciplines do have the ability to teach writing in their disciplines, given an appropriate level of support and resourcing. The task may be more difficult if the teachers are not themselves confident writers, do not see the teaching of writing as one of their

primary professional tasks, or have teaching writing imposed on them, i.e. where staff are 'volunteered' for the task. These studies also suggest that it may also be a sensible option to integrate writing into new papers, rather than to try to 'add' it to existing papers (this supports the finding of Watson, as described in chapter four, p.102).

This study shows students' attitudes to writing to have improved through being taught writing by content specialists from applied science. Factors that influenced their attitudes were the use of credible sources who could demonstrate the relevance of writing in the discipline; the integration of writing into a wider curriculum, not into a single paper; availability of student support; and communication of student concerns to staff through a carefully managed feedback loop.

It is a commonplace of action research that the project will throw light on the institutional setting of the project. This study has shown that the institution inhibited or supported the projects in a number of ways: three factors in particular were seen as critical: the use of standardised student feedback, management support, and a perceived teaching vs. research imbalance.

9.4.1 Student feedback

Student feedback was essential to the success of the projects in this study. It can be a valuable indicator that we are 'off-track' as teachers, that we are teaching inappropriate skills or that we are teaching skills in inappropriate ways. Student feedback about a generic writing paper was the catalyst for this study and was one of the ways in which the groups in this study reflected on their strategies for integrating writing into the curriculum. However, one of the things we learnt from this study was that feedback needs to be of a specific kind – it is not a virtue in itself – and it needs to be managed carefully if it is going to have a positive impact on the quality of the programme.

At the time that the projects were first being introduced, the university introduced its own student evaluation structure (SET – student evaluation of

teaching). This used a standard set of teaching indicators, rated on a scale of 1 –
9, rating the staff member's performance in relation to other staff teaching
individual students, with two open-ended questions, chosen by the staff member.
Results of the test were computer generated and sent to the staff members and the
staff member's HOD where they were integrated in the indicators for salary
review.

These SET evaluations proved to be threatening to some staff involved in the
project, and they provided unconstructive feedback which was damaging to staff
confidence and, at times, misleading. For example, one staff member was heavily
criticised in a SET evaluation for slow delivery of paper content. In-depth focus
group interviews showed that the real concern was with depth: that the students
would have liked the microthemes and in-class exercises to have been more
demanding in relation to paper content. The SET evaluation was threatening
because it merely criticised and, possibly worse, because that criticism was
conveyed automatically to the HOD, thus influencing promotion opportunities. It
was also misleading, because the very limited space available for open-ended
student comments meant that comments did not focus on students' real concerns.
The focus groups interviews, by contrast, provided accurate and detailed
feedback in a constructive manner (i.e., suggesting solutions) and were less
threatening since they were not automatically channelled to an HOD. From this
feedback, staff members were able to make adjustments to their teaching style
and to re-construct microthemes and in-class exercises to provide a greater
intellectual challenge to the students.

A further issue is that student feedback sometimes needs to be managed. In each
of the projects, feedback was at times managed through indirect reporting or
through generalising to the project team rather than to individuals. The paper
coordinator of project three described the issue thus:

> The more I get into this project, the more I feel that staff management is critical to
> how successful each AR cycle becomes. ...I think that the feedback sequences of
> AR require a level of personnel management that I had not previously realised
> (5.6.95).

As Morgan (1997) emphasises, all evaluation, including feedback, must contribute to increased quality. Unless feedback is accurate, constructive and managed, there is a possibility of staff dropping out of WAC programmes or becoming disillusioned with developing new teaching initiatives which may be initially unfamiliar and/or threatening to students.

If the university is serious about teaching quality it needs to provide an environment which supports innovation and staff learning and which encourages risk in pursuit of that learning. Risks are a necessary component of the journey towards quality teaching and learning. Undertaking an innovative WAC initiative is a move towards that quality: student feedback must be used positively to encourage staff development.

9.4.2 Teaching vs. research

Another issue that arose for some staff during the development of the WAC programmes was a perceived discrepancy between the value placed on research and the value placed on teaching in the culture of the university. The faculty in which the projects took place had a strong research culture and the department in which project two took place had, as a strong priority, a commitment to establish and promote itself through research. In the broader picture, the university as a whole has, historically, prioritised a research rather than a teaching culture, and this has become more of an issue in recent years as other tertiary institutions market themselves more aggressively as teaching institutions. While Massey University has high quality teaching as part of its strategic plan, and promotion is now influenced by teaching contributions, some staff perceived research still to be the prime promotion indicator: given this perception, some staff felt that time spent on a long-term teaching innovation was a luxury they could not, professionally, afford. Some staff perceived this to be a major issue at the end of the two-year cycle. One participant put it this way:

> [Teaching is seen] just as part of your job…it's the minimum standard thing. You do that, that's it…versus a paper in an international journal it [innovative teaching] is not worth a lot (10.10.95).

This quotation explains an apparent contradiction in this section: how can staff be worried that a negative student evaluation will affect their chances of promotion while long-term commitment to teaching improvement is seen as damaging promotion opportunities? The answer lies in this quotation: if quality teaching is a 'minimum standard' then commitment to innovative teaching is merely seen as maintaining of the minimum standard; whereas a negative evaluation of teaching will suggest that teachers are falling below the minimum standard. The suggestion from this is that evaluations in teaching can only contribute negatively to promotional opportunities.

If this perception is an accurate reflection of reality, then until the university places more emphasis on teaching, few staff are likely to put their energies into developing WAC programmes. As the case studies will have shown, a WAC project is a long-term commitment requiring time – time to retrain, to implement the programme and to reflect. It is possible to publish in this field, of course – and this is occurring in relation to the projects in this study – but a long-term qualitative study is far more time consuming than the quantitative studies of some disciplines (including some of the disciplines in this thesis) and it may require retraining in methodology for staff working in primarily quantitative fields. Furthermore, staff would be publishing in areas outside their primary research field, which may not be evaluated as highly as work in their primary field.

If this perception is inaccurate, it appears to be, nevertheless, reasonably widespread.[58] In this case, the university needs to devise ways in which it can convey a changed message to staff about the value of innovative teaching and its contribution to promotion opportunities.

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[58] Another member of the programme wrote in his journal "Why not just be a dead fish like everyone else and go with the flow? It's not the money – none of this will gain a promotion. The promotion system has no way of recognising the distance we have come" (6.9.95).

9.4.3 Management support

One of the key elements that affected the extent to which the writing programmes could be initiated and sustained was support from management.

In all three projects support was sought and was forthcoming from the senior management level. Both projects two and three had the support of the head of department, and in the case of project three this support was hard won. The paper coordinator's journal contains six months' documentary evidence of his attempts to convince his head of department and the department's management team of the advantages of altering the pedagogy of the Horticultural Technology paper. Support for project one was also achieved after several months of discussion and lobbying, with support finally coming from the Dean of the faculty and the Degree Management Committee. For these three projects to have failed would have been to have risked professional embarrassment at best, and, for project one, failure would have damaged the credibility of the entire degree programme.

We may say that support from management is essential to the success of writing in the discipline projects because that support makes possible the initial development of such a project and ensures the continued effort of those in the project team. This support may also contain a risk element in that team members may feel a strong sense of the responsibilities placed on them by those in power. This sense of responsibility may be the other side of the driving force to sustain effort, especially if resources are channelled into the project.

So far we have looked at the aims of the projects and the extent to which the changes we aimed for were achieved. The next part of this chapter considers the vehicle by which we achieved these changes and asks whether the use of action research was a critical factor in our achievements.

9.5 Action research

In chapter five, I identified a number of reasons for using action research as a method for developing a teaching team that could teach writing in the sciences:

- it took place in a real as opposed to controlled *context*
- it offered a structured approach to *collaboration* within a team
- it provided a rational, systematic *process*
- it focused on the need for *change or development*
- it had dual foci of *action and research*.

The first part of this section considers these elements as a way of assessing whether action research 'worked' as an approach to integrating writing into the sciences.

9.5.1 A structured process in a real context

It is a truism of writing across the curriculum programmes that they take place in a real, uncontrolled context, often in less than ideal time frames with less than ideal resources. We may speculate that one of the reasons for the lack of material on evaluating WAC programmes is the context in which WAC programmes evolve – perhaps in a time frame that does not allow the time or the resources for evaluation. As Morgan (1997) puts it:

> WAC program directors are often caught up in the day-to-day operations that make any program tick, yet, to successfully assess a program, the director must be involved in that assessment and be able to look both broadly and longitudinally – both of which require discipline and, more than anything, time and patience (1997, p.143).

Maimon (1981), Fulwiler (1987), McLeod (1988) and others continually stress the importance of WAC emerging out of its own context, that there is no 'pattern fits all', but that each WAC programme will be specifically adapted to its particular cultural, institutional and social context. Spear's comment that of 427 WAC programmes identified by McLeod there would have been 427 different models is no exaggeration.

This is even more the case when adapting a model from one culture to another. Universities in the United States can assume certain common structural features when reading about WAC programmes in order to construct their own. For example, they can assume an established writing programme. Most have a

Writing Centre. At worst they can assume it is possible to meet with people at key conferences such as the 4Cs (Conference on College Composition and Communication) to share concerns and discuss how to adapt a model from one institution to apply to their own. So while each WAC programme may be different, it is possible to assume certain common structural elements which can be adapted to produce the new programme.

The WAC projects discussed in this study could not make these assumptions. Certain key structures which are common to universities in the United States were not present – there was no established writing programme, there were very few specialist composition teachers in the country, the university did not have a university-wide Writing Centre, there were no models for WAC in New Zealand. It was not possible to attend a North American conference and no new resources were available.

Further practical constraints were part of our context. The timeframe for the development of each project, for example, was minimal. It was not possible in this time to read all the literature on WAC (most of which had to be acquired on overseas interloan for which we did not, initially, have funding). Therefore, reading had to be an on-going activity and initial decisions had to be made on the basis of limited reading.

Action research provided a model which allowed for this 'real life', non-ideal situation. Because of its structure of on-going reflection, the projects could be modified and discussed, both at the end of each cycle and on an on-going basis, and the changes built into the final case study. The literature could be fed, as it became available, into the groups, so that we were continually injecting new ideas and concepts into our work. As an example of this, we began with a primary interest in writing in the disciplines and how to teach subject-specific genres, but our reading, as it developed, led us to explore more writing to learn activities, so that project two in its second cycle and project three were far more influenced by a writing to learn pedagogy than project one and the first year of project two. Much of the literature on WAC discusses the value of on-going

reflection, but action research provided us with a model for reflection that ensured that it occurred on a regular basis.

Action research also provided constraints and imposed activities to ensure the success of the projects. For example, although we were under intense time pressure at the start of each project, the action research planning structure meant that we had to conduct a reconnaissance and establish data collection procedures as well as identify goals if we were to be able to complete adequate reflection. Thus the problems outlined at the beginning of this section – where the WAC director is too busy to conduct evaluation – were addressed from the beginning since formative evaluation (i.e. reflection in these projects) was a priority.

WAC never takes place in a controlled, ideal environment. Action research provided us with a model that allowed us to implement our programmes in a non-ideal environment, while still allowing for rigorous analysis of and reflection on our work.

9.5.2 Collaborative team

Another concern in these projects was to produce collaborative, interdisciplinary teams, which could work together to teach writing skills to applied science students. In particular, we wanted to ensure that power was shared and that the skills of different members of the groups were valued equally.

Chapter four outlined the difficulties inherent in such collaborative ventures, and the factors that could contribute to the success of interdisciplinary collaboration. These factors include skilled, flexible teachers (Kuriloff, 1992; Gardner and Sutherland, 1997), who have respect for one another and "whose personalities, teaching philosophy and teaching styles mesh", time for meetings and discussion (possibly including time release from other activities), resources (Gardner and Sutherland, 1997), clearly established goals (Kuriloff, 1992) and an established, but flexible and contingent process or protocols to ensure that the collaboration stays on target (Mullin et al., 1998). We might add another factor here that the teams in this study saw as equally important for collaborative and

interdisciplinary projects: if collaboration is to be effective, individuals in the group must have a sense of shared ownership of the project; responsibility and power need to be shared and different skills valued by the group.

We developed the projects using action research because it seemed to allow for such features. While some forms of action research do allow for a leader or an outsider researcher,[59] we chose not to use this model in the interests of achieving true collaboration and hence a truly interdisciplinary approach. Rather, individuals came together as equally valuable and skilled members of the team (although individuals may have different skills).

So did we achieve this? Did the use of action research ensure that the teams worked collaboratively? These are not easy questions.

The use of action research provided a role for me. In both the projects I was invited to join (projects one and three) and the project which I initiated (project two) I was committed to the role of collaborative supporter. My stance was this: I was experienced as a teacher of writing and was most familiar with the literature on WAC but I had no familiarity with writing in the applied sciences. The other members of the group, for their part, had expertise as users of applied science genre(s) and were experienced teachers in the field but did not have experience as teachers of writing. I could, therefore, contribute to the discussion and the development of the projects, but would not act as a consultant, since a consultant is assumed to have more knowledge (as opposed to different knowledge) than the other members of the group; I would be a collaborator.

On the most superficial level, it seemed that this position was most successful in projects one and three. In these projects all members of the teams were equally focused on the project and my role as collaborator appeared to be successful. In project two, it did not appear to be so successful. The project lacked impetus and direction, the group did not work as a team but as individuals and some data collection was not undertaken. Rarely during projects one or three did I

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[59] see Bunning (1994) or Poskitt (1995).

experience difficulty with my role (my greatest difficulty was with the original paper coordinator of project one who tended to treat me as an administrative assistant), yet my journal for project two returns frequently to a discussion of my role and the problems associated with it. Members of the team at times suggested that I should take a more directive role within the group, but then objected when I did. At times it seemed that the team for this project should indeed have used a consultant to define the parameters of the project and then direct its operations.

Yet, there were advantages to taking a non-directive role in project two. An illustration of this is the shift that was made between the first year and second year, from focusing on grammar to focusing on style. Although I had opposed the initial focus on grammar, the group decided to pursue this path and then discovered for themselves that grammar was not their primary concern. This discovery could not have been made unless the group controlled and owned the project. From this position – of recognising for themselves the priority of style over grammar – the group could make progress in designing its writing in the disciplines project and retaining ownership of that project. Nevertheless, this shift in focus was difficult for staff and students alike.

Each of the project teams came together to achieve a specific purpose. Project one brought together a group of academics from different departments within the faculty with little previous history and some negative professional relationships. Despite an on-going struggle for dominance between two groups within the major group in the first two cycles, followed by difficulties in later cycles between experienced group members and new members, the group worked well together, especially in early cycles, to bring together different types of expertise. However, the group lost ownership when decisions were made by the group leader without discussion.

The team for project three was the most consistently cohesive with its strong sense of purpose and focused leader; this team was most consistently collaborative. Nevertheless, the paper coordinator commented in his journal on the amount of team management required to ensure its smooth running.

The team for project two appeared to have initial cohesion but strong established departmental divisions and a major pedagogical and curriculum debate undermined its cohesion.

Another issue to consider in looking at cohesion is whether the writing consultant and the science teachers established strong working relationships. Huot (1997), considering this topic, writes:

> I can't say that our experiences...have solved the lack of trust between English faculty who staff and administer WAC programs and the faculty who teach in them. ...Our experience with WAC assessment, however, seems to indicate that involving faculty across the disciplines as partners in reading, discussing and evaluating our common program has the potential to uncover and strengthen the bonds of all of us (p.77).

This focus on trust is an interesting one, especially in the light of the literature which talks about an advantage of interdisciplinary approaches being the establishment of bonds between English Department staff and subject specialists (see Kuriloff, 1992, for example). Did we achieve this? Did action research help us to achieve this?

Clearly, we did not achieve it all the time. The early incident mentioned in chapter six (p.184) where someone asked me who I was reporting to showed that there was, at least initially, some reservation about my involvement. This was confirmed by the number of people in the interviews who discussed experiences with the English Department which the interviewees considered to be unsatisfactory (for example, I was shown a letter from an academic in the English Department to a staff member in applied science which the latter had considered to be very patronising). Whether these reservations were totally overcome is, of course, impossible for me to establish.

Nevertheless, there are indications that some strong professional relationships were established between myself and some members of the groups I worked with. The staff member who asked who I was reporting to, for example, became a highly involved part of project two and pioneered some of the writing to learn techniques in the later cycle. One of the members of the project three team wrote

"today I have been worried that I may be opening myself to being viewed as arrogant and calculating, instead of confidently working to a plan, albeit continuously evolving. This is the risk it seems I have been prepared to take, no doubt because of the environment (read trust) I sense…" (5.12.94). This trust has led to on-going professional ventures in teaching, research and publishing.

Huot wrote (1997, p.77), "My experience has, however, illustrated for me my own biases and lapses of trust." This has certainly been the case for me. Throughout the three years of the research, I was constantly faced with my own attitudes, assumptions and arrogances – all of which the members of the team helped me face and, I hope, overcome. Our differences in perception and understanding often amused and exasperated us. I hope that at the end of this I have a better understanding of the scope of the university as well as a better understanding of how students in the disciplines write differently, that I have better skills as a teacher and a broader perspective of how different kinds of students learn.

So can we attribute any of this increased understanding and trust to the use of action research? A number of issues are relevant here. Firstly, action research provided us with a structure for *group* research – and group research that balanced power between all members of the group. This equalising of power between members of the group meant that we had to take an interdisciplinary approach. The specialist staff could not completely control events (such as in Watson's 1996 experience, or the initial experiences of Mullin et al., 1998). Neither could I, as the writing teacher, dominate the approach being taken. Clearly, as the case studies show, this did not always work perfectly, but the times at which this balance was maintained were the times when trust remained highest and staff experienced the projects most positively. Second, the literature on action research (see Carr and Kemmis, 1986; Kemmis and McTaggart, 1988; Winter, 1989) sensitised us to the issue of being aware of our own values and assumptions, which meant that these things were likely to be discussed and explored in group meetings. Thirdly, the action research *process* provided us with a structure for our teaching and our interaction, including the process of

continuous reflection and managed feedback, which again meant that problems were likely to be overtly discussed.

Action research, then, may have been an effective way of establishing collaboration between interdisciplinary teams and of developing a deeper level of trust between 'English teachers' and teachers in applied science, because of the equalising of power between group members, the provision of a process of reflection, and the stress in the action research literature on values and assumptions.

9.5.3 A change process which is conducted as research

Curriculum change is often unmonitored – it is something teachers just do. However, working as we did in an institution that strongly values research, conducting this curriculum change as research made professional sense. Papers have been published on each of these projects (Emerson, 1996; MacKay et al., 1996; Hampton, 1996) and, following the completion of this study, further publishing is expected. Thus, one of our priorities in these projects – to combine curriculum development with research – has been achieved through the action research structure.

9.5.4 Action research: a conceptual model

One interesting outcome of using action research in an applied science context, which has not been discussed, was the need for a connection between words and visual representation when working with people who have a strong visual orientation. Many of the members of my groups were strongly visual. As we have seen, in project three the staff started to experiment with mindmaps and other visual approaches to generating ideas, and those members of project two who worked in systems were most comfortable with diagrammatic representations of action, often using diagrams in their teaching and requiring students to provide visual representations. Some group members were concerned that I could not provide them with a diagram of action research that included the connection between the process and the contexts in which the process took place.

There were many representations of the action research cycle, but none that I could find of the ways in which the change process interacted with the varying environments, including the research environment. This was not of concern to me, being a strongly word-focused person. However, it is important when working with people who will be using action research to use a teaching approach which will suit their learning needs. Therefore, as a response to their concern, I designed a visual representation of a contextually based action research process (Fig. 9.1).
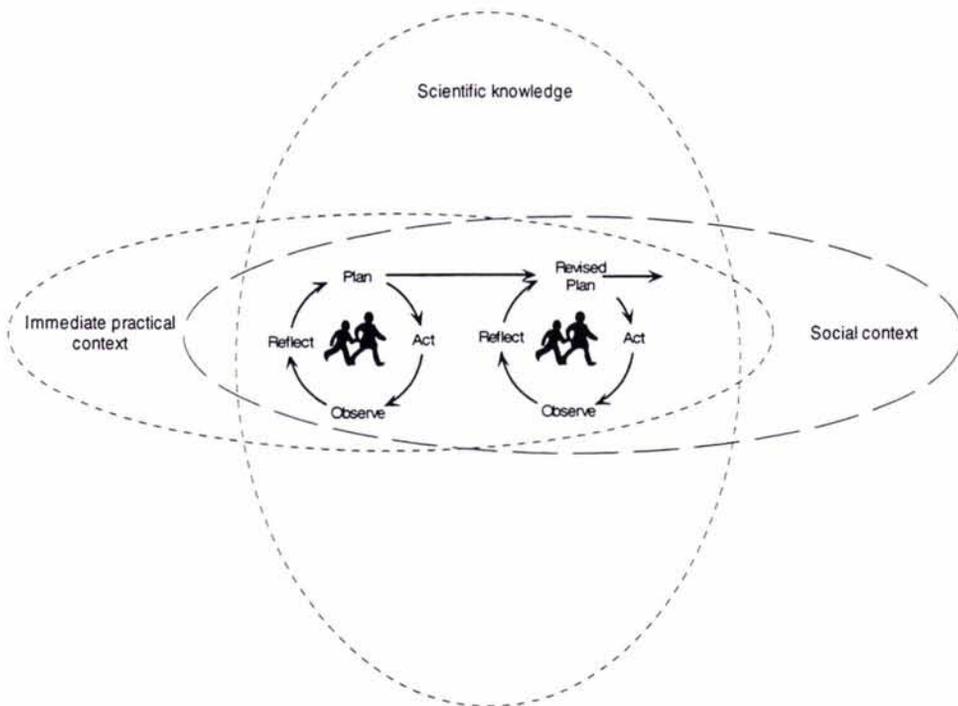
Fig. 9.1 Contextual action research diagram

This figure performs an important function in that it may provide a visual representation of the process, as described in the literature, for those who learn through visual images. Note that the lines denoting each of the contexts are dashed, to indicate the dialectical relationship between those contexts. Note also that I have provided multiple horizontal contexts rather than a single context to indicate the variety of contexts which need to be considered (e.g., social, practical, political, cultural). This idea of multiple contexts is not expanded on in the present study but will be the subject of further research.

9.6 The broader implications

The literature on WAC tends to take two forms: either a specific focus on a micro project (for example, Watson, 1996; Mullin et al., 1998) or a general discussion of how to more broadly integrate writing into the structure of the university, i.e., a focus on the macro issues (see McLeod, 1988; Walvoord, 1992; Baldauf, 1997; Parker, 1997). This section moves from the micro project to the macro issues by summarising the indicators for success of a WAC programme, taught by subject specialists and supported by writing teachers, as indicated in the previous sections and then looking at the broader question of whether such a WAC programme could or should be developed across the university and how such a development could be implemented.

Figure 9.2 shows the indicators from the projects, supported by the literature, that suggest a successful uptake of WAC programmes taught by subject specialists.

These are indicators of success for specific programmes such as those discussed in this study. The literature supports these findings. For example, Kuriloff (1992) supports the need for an established process for collaboration between team members, established goals for the project, and trust between group members. Mullin et al. (1998) also suggest that consensual action and flexible and contingent process, as well as an ability to listen to one another, are essential factors.

At the same time, the factors affecting successful uptake of WAC across a curriculum need to operate more broadly: i.e., the institution needs to provide a certain context in which WAC might thrive across the university. For the features of this context, we need to look beyond the studies discussed in this thesis to date. If the university wanted to establish writing across the whole curriculum, what would it need to provide?

Institution	Team
• Management support for the WAC programme is essential • Positive structures for managing student feedback are needed • Institution must demonstrably value and support innovative teaching • Writing should be integrated in the broader curriculum • Student support must be provided through a university-wide writing centre or learning centre	• Leadership within the group should be balanced by a sense of equal power and ownership • Group support and cohesion is needed • Participants should be confident writers • Participants should have a professional interest in teaching writing • Writing should be integrated into new papers • Writing consultant/collaborator or resources are needed, with type of support determined by staff confidence • Staff need to have the ability and confidence to reflect on their performance • Staff need to be able to provide a supportive, safe environment in which students can discuss their own and others' writing • Staff should consider using professional journals as a way of modelling appropriate writing practices and as a form of reflective practice
Students	**Process**
• Students need to recognise the relevance of writing to professional goals • Student should actively use any support provided by the university • Students should participate in opportunities to provide feedback to teaching staff • Students should make their vocational priorities clear to staff so that writing can be professionally directed (i.e. they can then be given tasks that relate to their professional development) • Students need to engage in developmental activities such as journal writing • Students should be prepared to discuss their own and others' writing in a safe and supportive classroom environment	• Process must be flexible and contingent • Consensual action and established goals are needed • Leadership is needed within the group • Group support and cohesion needs to be developed • Continuous reflection is needed which brings feedback from all participants and relevant research into the process • Action research should be used since it is an effective method of ensuring the process features outlined above are in place

Fig. 9.2 University-based WAC matrix (model 1)

Fauske (1993), focusing on collaborative projects, identifies four institutional requirements. The institution needs to:

- legitimise collaboration through philosophical and financial support
- view collaborative research as legitimate
- provide structures that facilitate collaboration
- institutionalise collaboration so that it is 'woven into the fabric' (Siebert, 1996) of the institution

Another factor that is implicit in much WAC literature is institutional leadership from either an English Department (Smith, 1988), a writing or learning centre (Waldo, 1993), or an interdisciplinary committee (Walvoord, 1992). Gardner and Sutherland (1997) suggest that the institution must provide time, specifically time-release and funding, and that it should choose talented and experienced staff whose teaching styles mesh together to undertake such a project.

Recent Australian studies have focused on the need for universities to have an institution-wide *policy* on student literacy and communication. For such a policy to be implemented, they emphasise the following features:

- the policy needs to be 'top-down', inasmuch as there has to be executive level support and structures which ensure that the ownership of the programme is university-wide rather than ad hoc (Baldauf, 1997, Parker, 1997; Catterall and Martins, 1997).
- an 'advocate' at the executive level is important (at Curtin University the advocate had a strong research profile in the field, which gave added credibility to his support).
- expert advice (Baldauf, 1997) or "strategic initiatives" (Parker, 1997) need to be already in place, on which to hang the implementation of the policy. These could include top-level strategies such as university-wide teaching policies or practical facilities such as the existence of a learning and language unit.
- 'bottom-up' support from academic staff and learning and language unit staff is needed to make the policy operational.
- feedback from employers is required at all levels to reinforce the importance of literacy issues.

- finally, Parker (1997) stresses the importance of developing the policy in a context-specific manner, building on existing institutional strengths, through "extensive consultation and negotiation, involving the reconciliation of at times conflicting perspectives and agendas" (p 31).

If we include these factors in our matrix of success indicators, we find it much expanded (Fig. 9.3).

So, looking at this expanded matrix, what should the university do if it wishes to extend WAC across the curriculum?

First of all, the university as a whole needs to establish WAC within its policy statements. It needs to acknowledge the messages from employers and graduates that we are failing to teach our students to write adequately and put an appropriate policy in place. This study has suggested that a writing across the curriculum policy is more effective in changing curriculum than simply establishing a Writing Centre or a generic writing paper for all students, because a WAC programme is more likely to change student and staff attitudes to writing; it is also more likely to ensure that students learn skills that are relevant to their future careers. Alongside a policy statement, the institution needs to establish and support a programme with a clear leadership responsibility. In other words, it will not be enough for, say, an English Department to voluntarily take on this role without a mandate from the executive, because resources are required and an English Department is unlikely to be able to provide this kind of programme and leadership using existing resources. As well as this, the university needs to provide funding to ensure adequate administration and time release for those involved. As we have seen, staff who undertake a WAC

Institution	Team
• Executive level policy on literacy is needed • Management support for the WAC programme is essential • Positive structures for eliciting and managing student feedback are needed • Institution must demonstrably value and support innovative teaching • Writing should be integrated in the broader curriculum • A university-wide writing or learning centre is needed • Institutional structures that facilitate collaboration and communication are needed • Institutional leadership must be established and supported centrally • Financial support must be made available to fund time release for staff and administration of the programmes • An 'advocate' at the executive level may be important • Feedback from employers is required at all levels to reinforce the importance of literacy issues • Policy and programme should be institution-specific, based on extensive negotiation and use of existing support structures	• Leadership within the group should be balanced by a sense of equal power and ownership • Group support and cohesion is needed • Participants should be confident writers • Participants should have a professional interest in teaching writing • Writing is more effectively integrated into new papers • Writing consultant/collaborator or resources are needed, with type of support determined by staff confidence • Staff need to have the ability and confidence to reflect on their performance • Talented and experienced teachers with meshing teaching styles should be used
Students	**Process**
• Students need to recognise the relevance of writing to professional goals • Student should actively use any support provided by the university • Students should participate in opportunities to provide feedback to teaching staff • Students should make their vocational priorities clear to staff so that writing can be professionally directed (i.e. they can then be given tasks that relate to their professional development) • Students need to engage in developmental activities such as journal writing • Students should be prepared to discuss their own and others' writing in a safe and supportive classroom environment	• Process must be flexible and contingent • Consensual action and established goals are needed • Leadership is needed within the group • Group support and cohesion needs to be developed • Continuous reflection is needed which brings feedback from all participants and relevant research into the process • Teams should consider using action research as an effective method of ensuring the process features outlined above are in place • Positive structures for managing student feedback are needed • Feedback from employers concerning literacy requirements should be directly channelled to students

Fig. 9.3 University-based WAC matrix (model 2)

programme place themselves under considerable stress when they take on such retraining on top of their existing commitments.

To return to the leadership issue, we should emphasise here that the appropriate place for leadership of WAC may be the English Department – or a writing or learning centre, or a multidisciplinary writing team. However, if the English Department or a writing centre staffed by English majors takes on this leadership role, it must take care not to fall into the traps outlined on p.90 (chapter four) of imposing a single appropriate writing style. Instead, it needs to work with faculty staff in a collaborative, interdisciplinary approach as outlined in this study.

Secondly, the university needs to clarify the importance it places on teaching and teaching innovation and quality, and it needs to clearly communicate and demonstrate its position on this to all academic staff. Staff are not convinced by words in strategic plans: they need demonstrable evidence that teaching has improved their promotional opportunities and will continue to do so.

Thirdly, the institution needs to consider the value it places on collaborative and interdisciplinary teaching and research. At present, the sciences and arts are very much separated, and while collaboration may take place within the sciences or within the arts, it is less likely to occur across the campus. If the university is to support WAC it needs to put in place structures that allow for communication and collaboration across the disciplines. It needs to promote opportunities for collaborative research and ensure that a collaborative project is valued as highly as a project in an academic's specified discipline. In terms of teaching and research portfolios, this makes sense, as a collaborative project allows for more publications in a wider variety of literature.

Fourthly, the university needs to take a broad and varied approach to evaluating teaching. A single, quantitative approach to eliciting student feedback is potentially damaging to innovative teaching. Instead, structures need to be put in place to triangulate evaluation processes and qualitative methods such as focus groups need to be used as well as, or instead of, simple quantitative methods.

Finally, the university needs to establish student support structures, such as a writing centre or learning centre. Such a facility needs to provide support to all students and might also provide resourcing for WAC groups. It could, for example, provide writing consultants to support the WAC groups in the way modelled in this study.

Whatever body in the university takes the leadership and administrative role for a WAC initiative needs to take into the account the findings from this study. For example, not all academic staff will be suited to involvement in such a programme; instead, teachers with highly evaluated teaching skills should be involved and these skills include being competent writers and having the ability to reflect on their own performance. Staff should choose to be involved, rather than being compelled or volunteered. Another indicator from this study is that group support may be essential to the long-term success of such a programme and in this respect this study has shown a difference with overseas studies where many WAC initiatives are implemented by individual academics working in conjunction with support staff. Both projects one and three in this study suggest that the impact of the WAC is sustained and satisfying for those involved when groups of academics work together towards specified goals, and project two suggests that a WAC project is harder to sustain when individuals work in isolation from one another. A further finding of this study is that ownership of a WAC programme is important, which suggests that administrators of a WAC programme need to ensure that each group is led from within rather than from outside. Support should be provided, at a level suitable for each group, but it should remain support rather than direction.

Finally, this study has suggested that action research is likely to produce a method of action highly suited to the needs of developing a WAC programme. Action research has provided many necessary features – a flexible process with consensual and established goals, group support, leadership and ownership of the project, continuous reflection and management of student and staff feedback, and linking of curriculum development with research opportunities. It is by no means the only possible method of developing a WAC programme, but it is one that this study suggests is highly effective in a New Zealand context.

9.7 Limitations and future directions

Looking back at this study, in the light of the original research questions, it seems that much has been achieved through the development of our writing programmes. On the other hand, the study has highlighted much more that we could have done and should do, to build on our achievements. This section looks briefly at the limitations of the study and points to future directions for research.

First, with the exception of project three, this study was set up under severe time constraints by a group of people who had no experience in teaching a writing across the curriculum programme and only one of whom had any familiarity (and even then, only limited familiarity) with the literature in the field. While this was accepted as part of the context of the projects – we had to deal with the reality of the situation – it would be interesting to set up a similar programme, armed with some experience and having read widely from the literature on the topic. It may be that many of the mistakes made in the projects (not understanding how to present the journal for example, or using an excessively punitive marking schedule) might have been avoided.

Second, no attempt was made during this study to quantitatively measure shifts in student or staff attitudes to the importance of writing or communication. While we do have qualitative material from the focus groups, interviews and journals, we cannot point to measured shifts. Neither did we attempt to measure in anything but an impressionistic way the changes in the students' writing skills. Thus, we have only the perceptions of staff to indicate improvements or otherwise. Again, this limitation was largely a matter of time: we did not have the time to investigate possible methods. Were future studies to be undertaken, based on the model used here, it would be useful to include quantitative measures of attitude and of writing skills to compare with the qualitative data.

Third, no attempt was made in this study to problematise, or consider the political or cultural implication of, literacy. Again we come back to the realities and contextual constraints of our practical programme: we did not have the time

to do this. Nevertheless, there would be value in looking at this study from a more political or cultural perspective, to consider the particular problems of specific groups within our classes (such as ESOL students, Maori students or mature age students).

Fourth, this was not a comparative study. No attempt was made to compare the use of an integrative study using action research with, for example, a study which ran writing or communication workshops parallel to a content course, or to compare how students fared under a course taught through an English department compared with one taught by subject specialists. While there would be difficulties with such an approach – practical difficulties such as how to ensure you had groups with equal profiles or how to measure the results, and ethical problems such as ensuring that one group were not being disadvantaged – it might still yield interesting results if these problems could be overcome.

Fifth, one of the staff in project two had the idea that we should design different communication objectives for each year of study so that students' skills were gradually developed. Staff in this project were also enthusiastic to develop the programme over the whole faculty, not just in their department. At one stage it seemed possible that the Dean would have approved such a move. However, this idea was not practicable, as we did not have the resources to handle such a huge development. Nevertheless, extending the present study in this way would be an exciting prospect, were resources to be made available.

Finally, this study has arrived at several generalisable statements which could be applied to a university-wide WAC initiative. Further research is required to test these statements in the real context of developing such an initiative. The extent to which those statements are context-specific or generally applicable in a New Zealand context or beyond has yet to be established.

9.8 Conclusions

This study began with three personal stories. I find myself, as I finish writing this, thinking about the personal stories behind this study. There were times when

we were working on this project when I thought I would end up writing a comic novel instead of a thesis and other times when I wondered how I would turn my hand to writing it as a Greek tragedy – or a comedy of errors.

When I began this doctoral study, one of my main aims was to work on a project that would have a practical impact on some aspect of my work. I had seen too many doctorates on topics which would never affect anything: I knew that if I was to undertake such a sustained project with the overwhelming obstacles of fulfilling a full time job and family commitments, then I wanted to be able to look back and see where I had been.

One of the participants in this study finished his PhD during our project. He ended his thesis with a quotation from T. S. Eliot from "Little Gidding":

> And the end of all our exploring
> Will be to arrive where we started
> And know the place for the first time.

One of our aims in this study was *not* to arrive where we started, armed only with increased knowledge and understanding, but to achieve change. This we did – we achieved our aim of changing the curriculum. But we achieved far more than this – we also achieved changes in our students' attitudes to writing and communication and in our own abilities as teachers. Perhaps most satisfying of all, for me at least, was the change in our understandings of one another. At times this was not easy. Standing in the middle of a windswept paddock – as deemed necessary by one of the paper coordinators I worked with – looking with trepidation at the number of ditches and electric fences to climb down and through on our way to look at a bunch of (to me) very uninteresting cows, I knew I was in the wrong place. Books of poetry were so much simpler to access. Arguing, endlessly it seemed, with another paper coordinator about the nature of journal writing, I pondered what insanity had led me, a bookish introvert, to work with groups of academics from another planet. Yet out of it all I gained a new perspective on the university, a deep interest in all things – well, most things – agricultural, and abiding friendships and professional relationships. I end with a quotation from someone who, like me, discovered that one of the best, and

certainly the most serendipitous, results of WAC can be the delight of finding new perspectives and new trust. Huot (in Yancey and Huot, 1997) discusses an incident between a writing teacher and a non-English department colleague (from the engineering department) working together in a WAC context. In this story, he has just expressed surprise at the engineering colleague writing something very sensitive and poetic about his concern for his students. This is what happens:

> [The engineering teacher] fixed me with his eye and went on to say that we across the disciplines don't trust each other. I think he was right. Trust is a word that is usually absent in discussions about WAC and assessment. This is unfortunate. I can't say that our experiences...have solved the lack of trust between English faculty who staff and administer WAC programs and the faculty who teach in them. My experience has, however, illustrated for me my own biases and lapses of trust. I am more aware that we college instructors, like our students, walk a common ground. Unfortunately, this common ground is often obscured by disciplinary boundaries and professional loyalty. Our experience with WAC assessment, however, seems to indicate that involving faculty across the disciplines as partners in reading, discussing and evaluating our common program has the potential to uncover and strengthen the bonds of all of us who strive to help students "discover what they love" (p.77).

WAC as it has been conducted in this study – as a collaborative, interdisciplinary programme – is not a magic solution for the ills of student writing. It will not turn all our students into instantly skilled, motivated writers; it will not turn all academics into teachers of writing without effort or stress on their part. Nevertheless, for those academic staff who are prepared for the rigours of the process, it offers many opportunities: to change a curriculum, to change our perceptions of ourselves and our skills as teachers, to change our students' approaches to writing, to dialogue with people 'on the wrong side of the campus', to discover and delight in our differences, and to engage in fruitful work together.

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Appendix 1: Covering letter and questionnaire

The covering letter and questionnaire in this appendix were sent to a single staff member at each New Zealand University. We had planned to use the questionnaire as part of a broader survey of writing instruction in Australian and Pacific Rim countries and to possibly connect our results to a planned survey to be conducted by Sue McLeod in the United States. In the event, the questionnaire had to be restructured and rewritten to suit the New Zealand context, and preliminary enquiries prior to sending the questionnaire to Australian Universities suggested that the New Zealand version would not be appropriate to an Australian context. For this reason, the broader perspective was not pursued in this way.

MASSEY
UNIVERSITY

Private Bag 11222
Palmerston North
New Zealand
Telephone 0-6-356 9099

Dear

I am conducting an international survey of tertiary writing programmes. Much of the literature on tertiary writing programmes is generated from a North American context. This survey aims to bring together information on tertiary writing programmes operating beyond North America. It is hoped this will establish a broader structural and discourse base from which to discuss our work.

Please find enclosed a copy of the questionnaire.

The questionnaire is composed of five sections as follows:

Part One: For all respondents.

Part Two: For respondents whose institutions offer a general writing course.

Part Three: For respondents whose institutions offer subject-specific writing courses.

Part Four: For respondents whose institutions offer Writing Centre support or writing support within Learning Skills Units.

Part Five: For respondents whose institutions operate a Writing Across the Curriculum programme.

Please ensure that you answer *all sections which relate to your institution.*. We have sent the questionnaire to only one person within each institution. Therefore if you, for example, run a generic writing course and know there is a Writing Centre on campus but you do not have personal involvement with that Centre, please fill in the section on the Writing Centre as well as the section that immediately relates to you. I appreciate that this may involve some data gathering time for you and I am grateful for your willingness to take this time.

You may find that there is not enough room on the questionnaire to write your answers sufficiently. If that is the case, please feel free to write on a separate paper with answers clearly numbered.

I hope to begin analysis of the data after Christmas, so I would appreciate a response prior to 15th December 1995.

If you would like a copy of the results of the survey, please indicate this at the end of the questionnaire.

I am enclosing a business card which includes my postal address, phone number and email address, plus a fax number on the back. If you have any queries or concerns at all, do not hesitate to contact me in whatever way is most suitable for you.

Yours sincerely

Lisa Emerson
Writing Centre

I nternational Survey of Tertiary Writing Programmes

Part One - *For all respondents*

1. Name of institution:

   Massey University

2. In order for our survey to be complete, we need some demographic information. Please tell us the following about your institution:

   Number of Students | 24,000 |
   Number of Staff | — |

3. Please indicate which description best fits your institution:

   ☐ a) Polytechnic
   ☐ b) Community College
   ☑ c) University
   ☐ d) Other *(please describe)*

4. Please indicate whether your institution is:

   ☑ a) Public *(Government funded)*
   ☐ b) Private

5. Does your institution provide:

   ☑ a) a generic academic writing course
   ☑ b) subject-specific writing courses
   ☑ c) a writing centre
   ☑ d) a learning skills unit which includes writing support
   ☑ e) a writing across the curriculum programme
   ☑ f) an ESOL academic writing course
   ☐ g) other *(please describe)*

6. Please indicate which writing courses are compulsory for **all** students in your institution:

   ☐ a) a one year generic writing course
   ☐ b) one semester generic writing course
   ☐ c) subject-specific writing course
   ☑ d) none of the above
   ☐ e) other *(please describe)*

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Part Two - *For respondents whose institutions offer a general writing course (or courses)*

1. When did the course begin operations?
   *(where a number of courses are offered please
   name the course and the year it was first offered)*

   Name of course: *39.107*

   Date: | *198?* |

   Name of course:

   Date: | |

   Name of course:

   Date: | |

4. Is the course compulsory for:

   ☐ a) all students

   ☐ b) no students

   ☑ c) specific groups of students *(please
   describe)* *info systems*
   vet nurses

2. Is the course(s) offered:

   ☑ a) by the English Department?

   ☐ b) by a learning skills centre?

   ☐ c) by a writing centre?

   ☐ d) other *(please describe)*

5. Is the course taught by:

   ☑ a) full-time academic staff members

   ☑ b) part-time salaried staff members *(eg
   graduate assistants, half-time lecturers)*

   ☑ c) part-time staff contracted on an
   hourly basis

   ☐ c) other *(please describe)*

3. Is the course(s) offered for credit:

   ☑ Yes

   ☐ No

Part Three - *for respondents whose institutions offer subject -specific writing course(s)*

1. In which faculties within your institution are subject-specific writing courses taught:

   ☐ a) humanities
   ☐ b) social sciences
   ☑ c) business studies/commerce *Bus Com.*
   ☐ d) technology
   ☐ e) science
   ☑ f) agriculture/horticulture *19.155*
   ☐ g) law
   ☐ h) medicine
   ☐ i) other *(please describe)*

4. Is the course compulsory for students majoring in the particular discipline?

   ☑ Yes
   ☐ No

5. Is the course taught by:

   ☑ a) full-time academic staff members
   ☑ b) part-time salaried staff members *(eg graduate assistants, half-time lecturers)*
   ☑ c) part-time staff contracted on an hourly basis
   ☐ c) other *(please describe)*

2. These courses are taught by:

   ☐ a) staff from the English Department
   ☑ b) staff from the subject-specific discipline
   ☐ c) staff from a learning skills unit
   ☐ d) other *(please describe)*

6. If you have any other information about the course(s), eg prescription, flyer, please enclose this information in your reply envelope.

3. Is the course(s) offered for credit:

   ☑ Yes
   ☐ No

Part Four - *(For respondents whose institutions offer Writing Centre support or writing support within learning skills units.)*

A Writing Centre is defined, for the purposes of this study, as a unit which offers support services to students related to academic writing.

A Learning Skills Unit, for the purposes of this study, includes all units which offer generic skills support (learning skills, writing skills, memory skills) and possibly some subject -specific support.

1. Writing support at your institution is offered from:

    [ ] a) a stand alone, centralised unit dedicated to writing support

    If yes - what is its name?

    faulty

    [✓] b) within a specific department (excluding an English department)

    [ ] c) within an English department

    [ ] d) within a learning skills unit

    If yes, what is the name of the unit?

    [ ] e) other (please describe)

    Bus Studies faculty

2. Writing support (excluding credit courses) at your institution includes:

    [✓] a) one-on-one counselling/tuition

    [✓] b) short workshops

    [✓] c) a distance-education service

    [ ] d) a proof-reading service

    [✓] e) composition of written resources

    [✓] f) workshops within credit courses

    [ ] g) specific learning disability diagnosis

    [ ] h) other (please describe):

3. This support is funded by:

    [ ] a) central administration

    [✓] b) a department or faculty (please specify)

    Bus Studies

    [ ] c) cost recovery

    [ ] d) other (please describe)

4. The unit has been operating since:

1984

5. Staff within this unit are:

    [✓] a) full time academic staff members

    [ ] b) full time general/support staff members

    [✓] c) part time salaried staff members

    [ ] d) part time staff contracted on an hourly basis

    [ ] e) peer tutors

6. Number of staff:

1	*Temporary*
1	*Full time*

7. What qualifications do staff hold (please specify)?

    MA BA (Hons)

Part Five - *For respondents whose institutions operate a WAC programme.*

Please give the following information about the person who co-ordinates the Writing Across the curriculum (WAC) programme at your institution:

Name:

Address: .

Telephone:

Fax:.

Email Address:

What is their title (specifically with respect to the WAC programme)?

What other positions do they hold?

Writing Across the Curriculum programmes usually evolve; no two years are exactly alike. If the following questions are difficult to answer in exact terms, give us your best estimate, and if necessary modify the options for answers we have listed if they do not fit your situation.

1. In what calendar year was the WAC programme at your institution started?

a) Has the programme been active in every year since it began?

☐ *Yes*
☐ *No*

b) If not, for how many years has the programme been active?

c) Briefly, if applicable, what were the reasons for the programme's inactivity?

2. What is your annual budget ....

......*total?*	..*or salary?*	*for materials?*

3. What percent of this funding, if any, is permanent?

Comments (re #3, permanent funding):

Part Five continued

4. Table: Source of funding (in the table below). Please fill in any additional sources; use the space below for additional comments)

Source of Funding	Permanent?	Number of Years?	Amount?	Describe
a. External funding from (Fill in source)	☐ yes ☐ no			
b. English Department	☐ yes ☐ no			
c. Writing Centre (outside English Dept.)	☐ yes ☐ no			
d. Dean's Office	☐ yes ☐ no			
e. Central Administration	☐ yes ☐ no			
f. Other (please specify)	☐ yes ☐ no			

Comments (re #4)

Part Five continued

5. Since your programme began, has the budget for your WAC programme ....(please mark one)

☐ a) ...increased?

☐ b) ...decreased?

☐ c) ...stayed about the same?

6. If you can, please comment on the reason for changes in your WAC budget:

7. What components make up your WAC programme? (please tick as many as apply)

☐ a) staff seminars (2 days or more)

☐ b) staff workshops (1 day or less)

☐ c) follow-up interviews or meetings with academic staff

☐ d) computer assisted learning strategies

☐ e) a resident writing consultant (faculty member)

☐ f) an all-university writing committee

☐ g) a WAC advisory committee

☐ h) in-house WAC publications (such as a newsletter)

☐ i) informal but regular gatherings (such as brown-bag lunches) of staff involved with WAC)

☐ j) outside speakers or consultants

☐ k) a writing lab or tutorials for students

☐ l) collaborative staff research projects

☐ m) writing-intensive courses for credit

☐ n) style manuals

☐ m) other (please specify)

8. What is the relationship between your WAC Programme and your Writing Centre? (please tick as many as apply)

☐ a) institution has no Writing Centre

☐ b) Writing Centre exists, but there is no formal relationship with the WAC Programme

☐ c) Writing Centre Director also directs the WAC Programme

☐ d) Writing Centre tutors provide support to WAC staff

☐ e) WAC staff help train Writing Centre tutors in disciplinary writing conventions

☐ f) other (please specify)

9. Do credit courses make up part of your WAC (eg subject-specific writing courses such as Writing in the Sciences) programme?

☐ Yes

☐ No

If yes, please describe

Part Five continued

10. What evaluation components are part of your programme? (please tick as many as apply)

☐ a) we have not evaluated our programme

☐ b) assessments of writing sample

☐ c) staff attitude surveys

☐ d) student attitude surveys

☐ e) collections of documents (assignments, course syllabi) showing impact of the programme

☐ f) quality asurance programmes

☐ g) classroom practices surveys

☐ h) interviews with staff

☐ i) interviews with students

☐ j) staff case studies

☐ k) student case studies

☐ l) experimental studies (please specify)

☐ m) other (please specify)

11. If you have done programme evaluations, what have they shown about your WAC Programme? (if applicable; tick as many as apply)

☐ a) programme having positive effect

☐ b) programme having a negative effect

☐ c) programme having no effect

☐ d) WAC staff using more writing in their classes

☐ e) WAC staff more enthusiastic about writing as a teaching tool

☐ f) increase in student writing across the disciplines

☐ g) improvement in student writing across the disciplines

☐ h) other (please specify)

12. How have you disseminated the results of your evaluation (if applicable; tick as many as apply)

☐ a) in-house reports to help secure, maintain, or increase funding

☐ b) in-house publications distributed to WAC Programme stakeholders (although not necessarily limited to this audience)

☐ c) professional publication(s)?
please give full refernces)

☐ e) papers at professional meetings (specify)

☐ f) evaluations have been performed, but results have not been disseminated

13. What are your plans for the future of your programme? Please summarise below what you hope to add or change in the next few years.

14. Is there a unique feature of your programme which our questions have not brought out? If so, please describe it below. If you have a description of your programme or materials that will help us better understand what you are doing, please attach these to the questionnaire. If journal articles have been written about your project, we would appreciate the references or copies of the articles.

Appendix 2: List of respondents

Auckland University	Emmanuel Manalo
Waikato University	Varvara Richards
Victoria University	Jan Stewart
Canterbury University	Carol Acheson
Lincoln University	Caitriona Cameron
Otago University	John Dolan
Massey University	Lisa Emerson

Appendix 3: List of interviewees

Auckland University:

Donna Starks
Emmanuel Manalo
Barbara Grant

Waikato University:

Varvara Richards
Rosemary de Luca

Victoria University:

Janet Holst
Jan Stewart
Brian Opie

Canterbury University:

Carol Acheson

Lincoln University:

Caitriona Cameron

Otago University:

John Dolan

Massey University:

Robert Neale
John Muirhead
Karen Rhodes
Frank Sligo

Appendix 4: Example of section of a focus group transcript

This appendix provides a section of a focus group transcript from project 3. Note the way the interviewer has some planned questions, such as the opening question, but also follows up responses in an unplanned way. This semi-structured approach to interviewing allows for maximum flexibility while ensuring that certain specific questions are included.

LE   What is the best aspect of this paper, and what is the worst? If you've got to pull out the things that you've enjoyed most or found most valuable and things you've found least valuable, what would that be?

A   Does this include in.. Landscape Management..

LE   Yes.

B   The worst thing I'd say is trying to get everyone together with the groups for the sunflower project.

C   The best thing is the hand-on sort of.. being able to do practical stuff, like.. planting sunflowers and that sort of thing, actually seeing it from that point.

B   Yes, just applying the principles like photoperiod and things like we did in class, and then going out and being able to do it if we want to, in the practicals.

A   I agree with what he's saying.

LE   Well, let's talk about the sunflowers. How.. How was it? Did you enjoy the experience? Or..?

D   I didn't enjoy the sunflowers. Well, it just seemed like too much mucking around. I couldn't do them properly, just playing around with sunflowers. I thought there could've been other things we could've done, I don't know, I just don't like them. I don't know if I'm a flower person. No.. I mean I.. I don't like.. I'm aware of where I'm going and I just.. that's not where I'm going. I just can't really be bothered with them. Things like that. That's just me though.

LE   Do you know why you were growing the sunflowers? What were you supposed to get out of it?

B   Working in a group.

E   Yes. And also just the fact that everything that we'd been doing in class, irrigation and photoperiodic responses relates to the sunflowers, because well, they're a good crop for an introduction to those things, because they do have those.. responses, so we can see them.. before our eyes, instead of reading it in books.

B   And they're a.. pretty simple, the whole crop.

A   And getting just an idea of what sort of things you have to think of if you do go into that sort of area.

LE   Right. Somebody last year said that they hated this paper because it should have been called Hort Sunflowers. And that the only thing that they looked at were sunflowers and gladioli and what was the point of that. Do you agree with them?!

All   (No-o-o)

E   No. Because its all relative to where you've been. If you just picked out one or two plants, they relate to the whole lot, you know..

D   You apply them to all.

B   They stress that its the principles of horticulture, that the principles are involved in doing the theory side of it. That you're bringing those over into the practical side of it.. so you know that they can be applied to a lot of things.

LE   If you needed help during the sunflowers, who did you go to? Or if you needed to make a decision about something.

B   Saw Keith, because we had lectures with him every week so I asked him questions more than I would have seen Eddie.

D   Yeah, its easier to talk to him after class rather than going down to PGU.

LE   So you weren't going to Allison or Helen?

E   I saw the people who were down there.

C   I used Allison, I think I went to see her a couple of times.

E	I talked to Allison quite a bit, and got ideas and then..
D	They were real good to talk to.
E	Yes.
LE	So do you think you've got enough support?
C	Yes.
E	Definitely.
D	There was always someone there for us. ....
LE	OK. The group thing. Did it all come right in the end? Somebody is shaking their head at the back.
B	No. No it didn't. It was just too.. too many people that.. different ideas.
B	Yes. Some did want to put in the effort and others didn't. It just didn't work.
D	Plus I think like the deadline should be brought forward next year because the deadline this year, in every single paper, has been set at the same time so when there's like five papers, and five or six assignments, all due around the same time..
A	And then we've got exams coming up, and..
D	You put more effort into some things than others. for what you think's important and like, its like our project.. it wasn't as important as some other stuff.
E	But then the experiments would have to be brought forward and finished earlier as well, to get results, which would be quite hard, if you wouldn't be able to do as many experiments.
B	Although perhaps though, some sort of targets, for some of the groups, throughout the year as well, because I've found for our group, we got stuck into it at the start, in the middle nothing really got done, and then towards the end of it we sort of think, oh hold on, we'd better get some stuff done here. We'd have some stuff for the end of your report, and then think so that you've ...., so in the middle if there was some sort of, not deadlines as such, but more targets that they reminded people about, maybe.
C	Or even deadlines. I think.. people are just so slack, that I can.. No matter how hard you try, you just cannot get work done, it seems, until the very last minute.
A	Then its still got some people that don't even finish.
D	If something's due on Friday,they'll start it on Thursday night!
LE	Last year we had the same criticism, and we had smaller groups, and so we thought we'd put more people into the groups, so that you got more chance of having people who would work. Do you think the groups have been too small, or too big?
C	I think next year.. not just.. just looking at other groups, it would be better if they've got a majority of older/younger people, and mix them up a bit more. Because, just looking at other groups, I haven't talked to any other groups, but with the older people they seem to sort of get the younger people going. Whereas..
A	Though we don't have anyone older in our group, and our group was great. We've got no-one older than ...... and our group really gets on, and we get everything done on time.. like deadlines.. and it was a brilliant group!
LE	OK. So what is the secret of it that gives success?
A	I really don't know!
LE	Have you got a good leader? Or are you just..

A   Yes, well.. I think we've got two people in our group who tend to be, you know, really getting people organised and stuff, really good at setting stuff out. Then everyone else in the group seemed to be very happy if they say, you know, we want someone to go and pick sunflowers, everyone goes yea, yea, yea, we'll do it. Everyone is like, really keen, and.. and we'd seemed to all work together, and basically had no problems really. I think it was just..

LE   It just works.

A   Yes. Its why I think its just a lot of luck, like what group you're put in.

C   Even having a huge number at the beginning hasn't helped us, because we're down to.. we had ten to start, now we're down to six, which is not enough to really do the report, we're one person short. And you know, its upset us all through the year, losing people.

LE   Because we're concerned about the groups, and because there was problems with them last year and we could see problems happening this year, we put in the group dynamics tutorial. Did it teach you anything?

C   It did, but it was sort of like, ended right there.

Ff   Yes, it did it that day

LE   So it didn't then carry on and be applied?

C   It was just like, it seemed like something fun to do I suppose, you know what I mean? Like, you did it, and it was quite a good class, after that you never really thought about it again.

E   Maybe if it was done at the beginning and you know, you sort of got into a role by then..

F   But maybe at the beginning, when people are sort of fluffing around and don't know what to do.

E   Because yes, at the start of the year, honestly I didn't know what to do.

F   We didn't know..

E   Yes. And before it, we didn't really know what sort of experiments, well even if we didn't know what experiments to do, how to really carry them out, like I never did that at school. I mean, we didn't get taught it, we learnt it.. by ourselves. And just the fact that now we're looking back on it and we have done it, and we know what to do now, there's so many things that I would have done differently, and it would have been good to learn it at the start, so we would have gone, cruised through, known, been more assured.

LE   So what you're saying is we should have taught you more about how to organise the group at the beginning?

A   Yes. Especially with a big group, because you tend to.. you can get divisions.. like, we had such a big group we ended up having to have two meetings every week, and you know, decisions would be made, and not everyone informed, and we kind of caught on to that quite early, that that was happening, so we made sure that we had two meetings every week and they were at a certain time, and we just all met and made the decisions together because it just wouldn't work otherwise. I mean, its like, hold on, I didn't know about this decision, so we kind of like, did something about it pretty early, which was good, because then from then on, we were right.

F   We had meetings each week but.. could we get people to turn up?! It was the same people each week, and it was just like.. decisions were being made between like, four people that would turn up, and then you couldn't get to these other people, and, oh it was just so frustrating.

C   Maybe if you had a system where half way through the year you could grade the people in your group then, as well as at the end, because then that may keep them on their toes and actually, well you know, this is going to affect my marks.

E   And had counselling, by people saying look, ... you've got actually a low mark, so could you pull your socks up, or something.

C   It might give people a shock, mightn't it?

Appendix 5: Example of individual interview transcript

A section of an individual staff interview transcript is provided here. Note the use of probing questions as well as questions of clarification. While the interviewer had prepared a list of questions, these were used only as the basis of the interview and further questions were added as required to clarify and extend the interviewee's responses.

Interview - **Exit interview**

This follow up interview I wanted to do with you because we give the original system of retrievability we ....marks 50% we give that in Ag Systems and Farm Management in 1994 and then we've gone to 1995 and changed the system in 1995 for Ag Systems so you were involved in all of these things so that's why I want to talk to you about them. So starting with the original system that we came up with which was you've already talked about how it works, how did it go, what were the problems with it.

I think the biggest problem from the relationship with the class was that some of the students that had done fairly well except for 1-2 pages that they got checked on got hammered for that when they re-submitted and tidied up that they get a grade of 70-80% and downgraded to 50%. And I think that was the biggest problem.

L   That was a problem of fairness.

Yes I think the fairness was the main, the other problem was the students that were marginal, still tended to try and just get under the margin, they just went to the minimum standard. I don't think it really did much more than that. And I think the other problem with students at the moment is there's too much time required in their course work with the semesterisation. So they're not having time to reflect or so alot of the feedback we give them you find they're not using it.

L   That's going onto the new system that we're using.

Well either.

L   Oh I see so you're saying that they're just working under such time pressure.

Yes that they almost, they don't think about looking at the previous project to then make that better alot of them.

L   Well let's talk about the new system that we're using Ag Systems which is where each project is retrievable. How did you find that.

Same problem. Some groups used it and jumped their grades 20% so that's quite good. But think as the work pressure came on that died, so all that happened was you put a huge amount of effort into marking it but handed it back, got it back and they hadn't done much but you still had to go through and do the marking again. So for us it doubled our workload without that much benefit to the students.

L   When you got the assignments the first time did it take you longer to write on them than it did on the original. If you were doing ordinary marking did this way of doing it, the first draft, did it take you longer.

Than just a normal (yes) it's hard to know. Probably would have been, I'd give the same feedback for a project anyway. It's just you had to do that twice and I guess the

disappointing bit for us was initially the students did make an effort but after that they were really making only marginal changes because they were too stressed out.

L   So which project did they make the effort for.

It was the first one, was it the first one, or which one did we retrieve.

L   The first assignment was quite a short one wasn't it, then there was the deer one.

It might have been the deer one and then the third one they didn't.

L   So was that the only problem. I know it's a big problem, it's your time and the students' time. But if you could take that problem away did you think it was working, did you think it was useful.

Yes if they had the time to reflect on it it would be good. And we had the time, again it's like everything at the moment, everyone's getting loaded up with more things to do.

L   Would it be better to solve the problem by cutting down a number of assignments in each of these papers so that we had the retrievability but had less assignments.

Well looking at 251 and we are looking at changing the nature of the assignments. But if you take 251 we've always got them to do quite detailed descriptions of properties and resources and things and the only reason we get them to do that is to then use that to look at constraints, problems or opportunities so what we're thinking we might to do next year is actually have more assignments but just have the first one doing that and the other ones will be taken abit in the appendices that will just be in note form and they will be asked to discuss the problems and opportunities in the light of that. So it will just force them into realising they need that. And then the real work is involved in analysing that data to come up with a discussion of problems and opportunities and constraints.

L   So they'll be much shorter assignments.

Yes, that's what we're looking at. The problem is it takes the students hours to write a description and then they don't spend much time on the discussion and it also takes us hours to mark it, so we're trying to reduce the project down to the more important aspects.

L   How about in Ag Systems we looked at 3 different systems basically, would it be better to reduce the number of systems. Or to design shorter assignments.

Yes the third project they did this year was huge I think because they were doing the whole beef industry which I think was probably too big, so I guess yes we probably need to go back to the course objectives and have a look and also reduce that down to the more important elements.

L   So my part of the project finishes now but will writing continue to be an aspect of what you're looking for in students' work.

Appendix 6: Example of tutorial assessment sheet

19.155 Tutorial Assessment

Semester 1 1994

Tutor's name ...... *PETER COOLBEAR* ......

Week Number ...... *3* ......

Number Students attending ...... *25* ......

1. Did you follow the recommended tutorial format?   Yes/~~No~~
    If No, please detail changes.

    ...... *Except : Peer group discussion of computing tutorial &* ......
    ...... *also progress on work books.* ......

2. Were there any problems with the material provided for this tutorial?   Yes/~~No~~
    If Yes, please explain.

    ...... *Time limitations again a problem.* ......

3. Do you think the class as a whole was responsive to the material you used?   Yes/No
    If No, please explain why you think this was so.

    ...... *As a whole yes, but some clearly questioning value* ......
    ...... *of the course.* ......

4. Further comments:

    ...... *Unhappy about overall course organisation. Think we're* ......
    running adrift a little. Some Tutors (from tut. discussions)
    don't seem to have a clear notion of the objectives of the
    course / teaching philosophy. This needs to be much more
    " up front." ...... Date ...... *18/3/94* ......

Appendix 7: Example of staff report

MASSEY UNIVERSITY

Department of Soil Science

MEMORANDUM

TO: Lisa Emerson

FROM:

DATE: 4 November 1994

SUBJECT: 'Writing Across the Curriculum' and 19.258

In my opinion, the introduction of a modified version of the 'Writing Across the Curriculum' (WAC) program into 19.258 was a qualified success. Its major achievement was the important role it played in the greatly improved quality of reports submitted by student groups as the course progressed. Arguably, one of the most gratifying aspects of 19.258 was the 'professional' standard of the third and final report written by students. In setting standards, providing guidance and support, and threatening to visit its wrath on the 'weak', WAC was an essential part of the educational process which resulted in this improved student performance.

While it is obviously important that students (always) write well, there is a particular need for students to be able to write clearly and concisely in 19.258 where they are using some systems analysis concepts for the first time. By careful and clear writing, students are better able to understand the complex nature of the systems under consideration.

The reservations I have regarding the use of WAC in 19.258 are a consequence of the structure of the course rather than any problem with WAC. One of the primary objectives of 19.258 is to teach students to work in teams and collaborate in the production of reports. Naturally enough, one or two group members ordinarily took responsibility for compiling the final report. Part of the recommended procedure for preparing a report was (supposedly) to have it checked by yourself. Unfortunately, when this occurred, it often meant that only one or two group members liaised with you and benefited directly or 'learnt' from WAC. It is of some concern to me that individual group members were not informed of theirs and other group member's mistakes or deficiencies. It is conceivable that if one or two students made the editorial changes recommend by you then other group members did not have the opportunity to redress their shortcomings. Given that the 19.258 class works in groups, it is easy to imagine the situation where a small number of the class, who liaise with you on the group's behalf, become progressively better writers while the majority of the class perpetuate their mistakes unaware that anything is amiss.

Another problem, as I see it, is the disappointingly small number of groups that used you for advice and support. As groups were often endeavouring to write and compile reports in the 4-5 day period immediately before the 'due date', there was insufficient time for them to work with you.. Whether this situation arose because of poor organisation and bad time management or genuine work overload and pressure is not entirely clear. I tend to favour the latter explanation. The scheduling of student workloads across courses is obviously a larger issue than either 19.258 or WAC can hope to address.

Appendix 8: Project One: Timeline

1993

June	Planning team formed. Faculty approves faculty–taught paper.
June – November	Planning team design paper. 1st stages of Style Manual designed. Reconnaisance: assignment instructions collected from across the Faculty.
November	Initial meeting of teaching team
November – February 1994	Curriculum finalised. Course material designed. Style Manual completed. All teaching staff interviewed.

1994

February	Cycle 1 begins.
June	All teaching staff interviewed. Focus groups conducted.
July	Reflection meetings take place.
July	Cycle 2 commences. New teaching staff interviewed.
October	All teaching staff interviewed. Focus groups conducted.
October – February 1995	Reflection and replanning meetings take place.

1995

February	Cycle 3 begins. All new teaching staff interviewed.
May – July	All teaching staff interviewed Focus groups conducted.
July	Final reflection meeting

Appendix 9: Example of 19.155 tutorial material

TUTORIALS

When the particular tutorial does not require the whole 2-hour period (i.e. not during library or computer lab tutorials) the following teaching strategy will be adopted. The time allocated to each section may be modified in order to accommodate the main topic of study.

1.   GLOSSARIES   (15 min)

One third of the group (about 8 students selected without prior warning each week) will present a "new" word that they have added to their glossary (see document on glossaries).

2.   FEEDBACK   (15 min)

The most recent project is discussed. Tutors provide feedback on common problems encountered.

3.   WRITING SKILLS   (15 min)

The tutor selects 3-4 examples of the most recent work submitted by students. Each student will have their work chosen at least once although the owners of the work selected are not identified to the group. An appropriate section (or the whole item) will be displayed on an overhead projector for constructive criticism by the group. The examples chosen will include good and bad examples of a range of writing skills. Students should note important principles in their workbook.

BREAK   (10 min)

4.   CURRENT TOPIC   (50 min)

The current topic (e.g. report writing) is covered according to the lesson plan provided by the person responsible for the particular section of work.

5.   REFLECTION   (5 min)

Students are required to reflect upon the previous week and record in their workbook an assessment of their learning during that period. Describe the most valuable and the least interesting information that you have learned. Record any problems you have with your work (and any overcome).

■
■ Lecturer in Animal Science

Appendix 10: Example of mastery test material and test

Students were required to pass three mastery tests: punctuation, paragraphing and English and science. In order to help students achieve this, they were provided with self-study material and, when the need became obvious, workshops on each topic. This appendix provides an example of the self-study material on one of those tests and an example of the test.

Test 1:   Punctuation (PUN)

Important: Read this page first.

MASTERY DEMONSTRATION - What you have to do.

1.   When you are ready to demonstrate mastery, arrange for your mastery demonstration with your tutor.

2.   Your tutor will provide you with a mastery demonstration worksheet for Test one.

3.   You will have to demonstrate your understanding of the functions of punctuation by correctly completing the exercises in the mastery demonstration worksheet within 30 minutes, and without reference to the material in this module.

4.   If you achieve this, your tutor will record your achievement on the master record for the tutorial group.

5.   If you have not reached the required level of mastery, your tutor will guide you as to how to reach mastery.

Introduction

What this module is about:

Punctuation is "the practice, art or system of inserting marks or points in writing or printing in order to make the meaning clear." (The Tasman Dictionary).

"Punctuation rules are important. They are devised to eliminate ambiguities in language. Learn punctuation. ... Few things undercut the authority of a piece of writing more than a simple mistake in punctuation". (Michael Alley). In this module you will learn about the function of punctuation and how to correctly use punctuation.

The learning objective for this module is:

- To be able to identify the correct punctuation option in a series of variously punctuated sentences in a multichoice test

---

Turn to the learning activities if required for reading and practice.

Learning Activities

Activity 1   Reading About Punctuation

Without our punctuation system of little black dots and squiggles, written language would be hard to understand. As Day (1989) pointed out, English is a strange language, and punctuation is a powerful tool. Consider the following sentence

<u>"Woman without her man is a savage"</u>

i)   The average male chauvinist would say that sentence is OK as it is - it needs no punctuation (and he is grammatically correct!)

ii)   of course in these enlightened times, we would use punctuation to make the sentence read "<u>Woman - without her, man is a savage</u>".

The functions of punctuation

Each punctuation mark in the English writing system serves a function (sometimes more than one). The functions of punctuation are:

- to mark boundaries   =   fullstop, comma, colon, semi-colon, brackets, dash

- to signify attitudes   =   exclamation mark

- to label   =   apostrophe, question mark, inverted commas

- to delete   =   apostrophe.

1.   The Boundary Markers

These signal the boundary between different parts of the written language.

i.e.   sentences are marked off from each other by <u>fullstops</u>. The internal parts of sentences (clauses, phrases and single words) are marked off from each other by <u>commas, colons, semi-colons, brackets and dashes.</u>

1.1   The full stop

Full stops are easy to use. Place one at the end of every sentence you write, but note that it may be replaced by the question mark (?) or sometimes the exclamation mark (!). e.g.

> "Punctuation is easy."
>
> "Why do I have trouble with punctuation?"
>
> "It is very important to use punctuation correctly!"

1.2   The Comma

Commas can be likened to a road sign that says "Slow down" (Day 1989). They are used within sentences to mark off bits, making the meaning clearer.

i)   to list items in a series

- I visited Paeroa, Waihi, Thames, Te Aroha, and Morrinsville on my holiday (i.e. single words)

- Whether you are making new friends, concentrating on your studies, or discovering the joys of the Fitz, being a first year Massey student provides plenty of new experiences (i.e. phrases).

ii)   to add to the basic sentence

a)   as an opener:

- Unfortunately, I am now broke.

- However, Dad came to the rescue.

b)   in the middle, usually between the subject and the verb:

- The party, which was due to start at eight o'clock, didn't really get going until after the pubs closed.

- My bike, my only form of transport, has two flat tyres.

c)   at the end:

- We turned the stereo off at 5 in the morning, to the neighbour's relief.

- Once more Jim hasn't dried the dishes, the lazy sod.

iii)   to separate the clauses in a compound sentence

- A woman drove me to drink, and I never even had the courtesy to thank her (W.C. Fields).

- I came out to Massey, but I did not go to my lecture.

Note: to use a comma in this way you will need to use a co-ordinating conjunction (and, or, but, for, nor, go, yet) to help separate the two independent clauses.

e.g.   <u>This is a good rule,</u> <u>and</u> <u>your readers will bless you for using it.</u>

↓	↓	↓
independent	co-ordinating	independent clause
clause I	conjunction	II
after the		
comma		

iv)   when writing addresses or large numbers

- 216 Ponsonby Road North, Auckland (would it get there if it was sent to Ponsonby Road, North Auckland?).

- the Lotto cheque was for NZ$1,867,329.

19.155

1.3   The Colon

Colons announce that something is coming, a sort of introductory flourish.

a)   to announce a list

- You will need the following for this course: common sense, an enquiring mind, and the will to work.

b)   to introduce a word, phrase, clause, or sentence

- Chastity: the most unnatural of the sexual perversions (Aldous Huxley).

- Perhaps you have guessed my favourite brand of beer: Speights.

c)   to separate a title and subtitle

- Computer Literacy in Universities: A Recommendation Report.

d)   to introduce a quotation

- The writer E.B. White summed up the frustrations of the commuter's life when he wrote:

    Commuter - one who spends his life

    In riding to and from his wife.

1.4   The Semi-Colon

Semi-colons have two main uses

a)   to separate items in a series when the items contain internal commas

- The International Grasslands Congress was held in Hamilton, Waikato; Palmerston North, Manawatu; Lincoln, Canterbury; and Rockhampton, Queensland.

b)   to link two sentences that are closely related in content

- Lead me not into temptation; I can find the way myself. (Rita Mae Brown)

- The lecture was hopeless; lots of the other students were talking.

1.5   The Bracket

Brackets are used to mark off a word, phrases or sentences. The information enclosed in the brackets is usually incidental

- Some people in this tutorial group (me, for example) are older than the others.
- He went into the Fitz for a quick one (which became a quick three).

1.6   The Dash

Dashes (pairs) are used to separate the words inside them from the main body of the sentence, or a dash (single) is used to mark off the last part of a sentence from the rest

- It's an interesting course - or so we were told - but we haven't seen much evidence of that as yet.
- I don't know anything about music - in my line you don't have to (Elvis Presley).

2.   Attitude Marker

2.1   The Exclamation Mark

An exclamation mark follows any word, group of words, or sentence that expresses:

a)   anger   - Leave that alone!

b)   distaste   - I hate maths!

c)   sadness   - I feel so down these days!

d)   delight   - What a wonderful world!

e)   a warning   - Look out!

Note: You will find little need to use exclamation marks in writing for science.

3.   Labelling Marks

A labelling mark is one which gives the word, phrase or sentence to which it is attached a particular characteristic i.e. it gives it certain properties which would not always be evident without that label.

19.155

3.1   The Apostrophe

Apostrophes are used to show possession, or to indicate the contraction of a word.

a)   To show possession

-   for singular nouns add 's

    e.g. The boy's dog; the student's room; Ken's farm.

-   for plural nouns formed by adding s, just add '

    e.g. The boys' dog; the students' flat; the Smiths' farm.

-   for plural nouns formed in other ways add 's

    e.g. Men's names; children's toys; women's clothing.

b)   To indicate word contractions (i.e. that letters have been left out)

e.g.   I'll (I will)   I'd (I would or I had)

won't (will not)   it's (it is)

we'll (we shall)   you'd (you had)

Note: do not use apostrophes when

-   referring to decades (1920s <u>not</u> 1920's)
-   making a plural of a word ending in a vowel (tomatoes <u>not</u> tomato's)
-   using possessive pronouns (ours not our's).

3.2   The Question Mark

The question mark is a special kind of full stop, but it labels the fact that the sentence concerned has been asking a question.

Who was the author of that text book? ('wh' question)

Was the author of the text book a New Zealander? ('yes/no' question).

That guy is a student, isn't he? ('tag' question)

Is he majoring in Agriculture or Horticulture? ('either/or' question).

Note: Some sentences look like questions, but in fact are not questions

      e.g.   Would you please hand in the assignment that is due today.

This sentence is an order, not a question, therefore the full stop is the correct punctuation mark.

3.3   Inverted Commas

These are most commonly called quotation marks. Whenever you are directly quoting someone else, use quotation marks.

The Dean said 'Communication is an important requirement of the new degree.'
She shouted 'Look out!'

Note: Never alter a quotation. If you leave out material indicate this with three dots (...). If you add anything, put it in brackets.

4.   Deletion Mark

There is only one, the apostrophe (see 3.1b).

For another perspective on punctuation you should:

- Read the section in the *Writing guidelines* on punctuation (in the chapter on paragraphing, punctuation and pretentiousness
- Attend a lecture on punctuation - check the times of these lectures with your tutor or paper controller

Activity 2:   Exercises In Punctuation Which Marks Boundaries

Correct the punctuation errors in these sentences.

1.   Hey cut it out

2.   I personally will see to it

3.   In particular commas are important

4.   The system consists of an engine tubing to bring fuel to the cylinders and associated mounting bolts

5.   Television is a popular medium however I would define it as the bland leading the bland

6.   He is the kind of man who adores his friends when they agree to everything he says

7.   The sound of a harpsichord reminds me of only one thing two skeletons copulating on a tin roof in a thunderstorm

8.   Brackets are as you might expect useful for separating stretches of language

9.   They are rather like human beings every one unique

10.   The bag was filled with the following items apples a bottle of Lemon and Paeroa three books my watch a copy of the NZ Farmer and a lettuce and vegemite sandwich

Check your answers on page 16 in this module.

Activity 3:   Exercises In Punctuation Which Provides a Labelling Mark

Correct the punctuation errors in these sentences.

1.   I could see Sarahs point of view

2.   He heard a thundering of horses hooves

3.   Its your life

4.   I cant do it

5.   He said I love you

6.   She asked when are we going

7.   Whats the point of doing these tests

8.   I felt for its pulse but I could feel the big dogs life slipping away

9.   Cant we just talk it through like normal human beings

10.   Wheres this discussion leading us

Check your answers on page 17 of this module.

Activity 4: Correcting The Punctuation In A Piece Of Writing

Try correcting the punctuation errors in the following piece extracted from "Horttalk", July/August 1994.

"From the President"

twenty years ago a physiologist friend decided to take up employment in the usa I found to my amusement that he was going to a department of ornamental horticulture which specialised in flower behaviour and I had an immediate vision of a thurber cartoon showing a wild eyed woman holding a sheaf of wildflowers and crying I come from haunts of coot and hern how very american I thought to devote a whole university department to flower behaviour

i have subsequently realized that the americans were ahead of their time recognising an area of economic and scientific significance when commonwealth academics were still wondering whether departments of biochemistry might be a bit daring I had my final comeuppance when I recently worked profitably in that selfsame department

the phenomenon still exists in new zealand where flowers are often seen as fripperies of little consequence compared with the worthy potato and apple when the carve up of the old maf and dsir took place ornamentals research was treated as an afterthought to the main separation of vegetables from fruit so ornamentals research is now being conducted in both hortresearch and crop & food research even though it was formally allocated to the latter partly because the research needed tends to have more in common with fruit than vegetable research

research on ornamentals is badly fragmented compared with that on our horticultural foodstuffs consider which of these contributes most to our export trade apricots asparagus fresh avocados cherries cut flowers other than cymbidiums cymbidiums grapes mushrooms nashi nectarines potatoes raspberries or strawberries with the preamble youve probably guessed it cut flowers other than cymbidiums and cymbidiums contribute about equally and

19.155

both are well ahead of the edible competitors but is that the way we treat them as research objects

Check your answers on page 18 of this module.

References And Further Reading

Day, R. A. (1992). *Scientific English - a guide for scientists and other professionals.* Phoenix: Oryx Press.

Emerson, L., & Hampton, J.G. (1996). *Writing guidelines for applied science students.* Palmerston North: Dunmore Press.

Newby, M. (1989). *Writing: a guide for students.* Cambridge: Cambridge University Press.

Activity 2: Exercises In Punctuation Which Marks Boundaries

Self Assessment Sheet

Please note: there is often more than one way to punctuate a sentence correctly. We will mark as correct any punctuation which is grammatically correct **and** makes sense of the sentence. What follows here are standard ways of punctuating the sentence; other answers may be correct also - you should check with your tutor or the paper controller.

1.　Hey, cut it out!

2.　I, personally, will see to it.

3.　In particular, commas are important.

4.　The system consists of an engine, tubing to bring fuel to the cylinders, and associated mounting bolts.

5.　Television is a popular medium;　however, I would define it as the bland leading the bland.

6.　He is the kind of man who adores his friends - when they agree to everything he says.

7.　The sound of a harpsichord reminds me of one thing:　two skeletons copulating on a tin roof in a thunderstorm.

8.　Brackets are (as you might expect) useful for separating stretches of language.

9.　They are rather like human beings:　every one unique.

10.　The bag was filled with the following items:　apples, a bottle of Lemon and Paeroa, three books, my watch, a copy of the NZ Farmer, and a lettuce and vegemite sandwich.

Activity 3:   Exercises In Punctuation Which Provides A Labelling Mark

Self Assessment Sheet

1.   I could see Sarah's point of view.

2.   He heard a thundering of horses' hooves.

3.   It's your life.

4.   I can't do it.

5.   He said 'I love you!'

6.   She asked, "when are we going?"

7.   What's the point of doing these tests?

8.   I felt for its pulse, but I could feel the big dog's life slipping away

9.   Can't we just talk it through like normal human beings?

10.   Where's this discussion leading us?

Activity 4:   Correcting The Punctuation In A Piece Of Writing

Self Assessment Sheet

Twenty years ago, a physiologist friend decided to take up employment in the USA. I found to my amusement that he was going to a "Department of Ornamental Horticulture" which specialised in flower behaviour, and I had an immediate vision of a Thurber cartoon showing a wild-eyed woman holding a sheaf of wildflowers and crying "I come from haunts of coot and hern". How very American, I thought, to devote a whole university department to flower behaviour.

I have subsequently realized that the Americans were ahead of their time, recognising an area of economic and scientific significance when Commonwealth academics were still wondering whether Departments of Biochemistry might be a bit daring. I had my final comeuppance when I recently worked (profitably) in that selfsame department.

The phenomenon still exists in New Zealand, where flowers are often seen as fripperies, of little consequence compared with the worthy potato and apple. When the carve-up of the old MAF and DSIR took place, ornamentals research was treated as an afterthought to the main separation of vegetables from fruit, so ornamentals research is now being conducted in both HortResearch and Crop & Food Research, even though it was formally allocated to the latter, partly because the research needed tends to have more in common with fruit than vegetable research.

Research on ornamentals is badly fragmented compared with that on our horticultural foodstuffs. Consider: which of these contributes most to our export trade? Apricots, asparagus (fresh), avocados, cherries, cut flowers other than cymbidiums, cymbidiums, grapes, mushrooms, nashi, nectarines, potatoes, raspberries or strawberries? With the preamble you've probably guessed it - "cut flowers other than cymbidiums" and "cymbidiums" contribute about equally, and both are well ahead of the edible competitors. But is that the way we treat them as research objects?

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Punctuation Test No. 1

1. Joe does not fear snakes and turtles do not frighten him

2. If the Bulls give him help Michael Jordan can dominate the NBA

3. They were energetic pretty intelligent and sensitive women

4. Dont touch the cat

5. Malcolm offered his best homework excuse his dog ate his essay

6. Communication involves at least three elements

   - a sender who has something to say
   - a message which contains meaning
   - a receiver who listens and understands

7. Meanwhile Kirsty who hates children was left to babysit her sisters little monsters

8. Can you hold these books for me

9. I dont know why you bother to talk to him hes such a nerd

10. In my opinion commas can confuse even the best writers

(10 marks)

1. I asked for only three qualities in this relationship kindness consideration and cooking so what went wrong from her perspective there seemed to be a myriad of shortcomings on my part my smoking was a direct attack as she saw it on her high standards of hygiene my passion for sport was a symbol of my uncaring nature my desire for rest and reflection was an example of my laziness all my interesting qualities she called faults

(4 marks)

2.   In my opinion soccer is the best team sport ever invented it has all you would ever want in a sport skill style suspense and in England spectators who can sing it is an open game the players dont spend all their time falling on top of each other in the mud its a game with the drama of war and the security of social engineering

(4 marks)

3.   It is vital that we be honest in our responses to each writers work it is even more vital that we are supportive of each writers efforts empathy is crucial we must write ourselves and we must identify with the writers process this is not I know an easy task however training and practice can fill in the gaps where natural empathy fails coaching by an experienced writer tutor may also in some circumstances be essential

(4 marks)

This test is marked out of 22. You need 18 marks to pass.

Total mark ☐

MASTERY DEMONSTRATION 3

1. Correct the punctuation errors in these sentences. Do not change the wording.
    Make your corrections directly onto this sheet.

    (i)   If we think we can find a solution

    (ii)   Its your life

    (iii)   The sopranos voice soaring out over the audience reduced many of us to
            tears

    (iv)   Why would you want to do that

    (v)   The feasability study was inconclusive however the project will be done
            anyway

    (vi)   Five reports are required a proposal a set of instructions an interim report
            a presentation and an analytical report

    (vii)   My car my only form of transport has a flat battery

    (viii) If we look at the diagram Fig 4 we can see the problem

    (ix)   She said I love you

    (x)   He worked very hard on the report it was received with great applause

                                                                        (10 marks)

2. Correct the punctuation errors in the following three pieces of writing. Again,
    do not change the wording, and make your corrections directly onto this sheet.

    (i)   Cartoons or exaggerated figures are effective visuals when the speaker is
            dealing with a sensitive subject this would be a fairly rare occurrence in
            the high-tech industries but cartoons can also be used to depict people
            oriented action in a stationary medium or to enliven less than exciting
            material these two uses are often useful when making a presentation
            about high technology especially to an audience that does not share the
            speakers knowledge of the subject

                                                                        (4 marks)

(ii)   Nonetheless leading meetings and small group discussions is a vitally important aspect of communicating within the high-tech industries brainstorming design sessions are common and more and more writing is done collaboratively problems are identified in meetings solutions discussed documents reviewed too often these can be self promoting affairs because of how strongly egos are wrapped up in the design or writing process subordinating ones ego to the group is not a denial of integrity rather it is a realization that effective group thinking makes meetings more effective and shorter

(4 marks)

(iii)   How then to punctuate in terms of today not yesterday there are four main types of punctuation the stoppers the linkers the intruders and the intoners they all have different jobs only four types of punctuation would appear to clarify this baffling subject however you may be assured that a large proportion of our population will remain baffled

(4 marks)

This test is marked out of 22. You need 18 marks to pass.

Total Marks _____

Student   _____

Tutorial Group/Tutor   _____

Mastery Demonstrated on: _____

Signed: _____ (Marker)

Appendix 11: Project Two : Timeline

1993

October

Writing consultant presents workshop on WAC.
Interviews with all department staff.

November

Writing consultant presents seminar on Action
Research.
Proposal submitted to HOD.
Departmental meetings to establish WAC
programme.

November – March 1994

Small working party establishes strategies,

March

Strategies presented to department meeting and
ratified.

April

WAC strategies presented to a meeting of Dean and
HODs.

July

11.341 lecturer writes report on modified WAC
strategies as applied in Semester 1.

July

Cycle 1 commences.
11.258, 19.152, 11.251 use WAC strategies.

November – December

Reflection meetings.
Interim report written.

1995
February

Cycle 2 commences.
11.251 uses WAC strategies.

June

Staff reports collected and reflection meeting takes
place.

July

Cycle 3 commences.
19.259 & 19.258 use WAC strategies.

November

Reflection meetings with individual paper
coordinators.

Appendix 12: Project 3 : Timeline

1994

May – November	Group leader lobbies department to change curriculum of 1st year core paper.
November – February 1995	Planning meetings. Staff journals commence.

1995

February	Cycle 1 commences. Staff meetings each week.
March	Focus group interview.
June	Focus group interview.
September	Focus group interview.
October	Focus group interview. Group reports and student journals submitted.
November – January 1996	Reflection meetings.

1996

February	Re-planning. Cycle 2 commences.
February – October	Focus groups at 2-monthly intervals.
October	Final focus group. Group reports and student workbooks submitted.
October – November	Reflection meetings.

Appendix 13: Example of in-class structured notes

Students in project 3 were provided with handouts on which they could write their lecture notes. These were trialed in the landscape section but also included in to a lesser extent in the later sections of the paper. This is an example of the handouts prepared for this purpose.

Learning exercise

Vegetative growth and flowering

Use your own copy of the paper by Hartman et al. (1981) to answer the following questions.

Vegetative growth and development

1. Describe the fundamental differences between a determinate and an indeterminate growth habit of plants.

your answer

2. Describe the difference in growth pattern (life cycle) between annuals, biennials, and perennials.

your answer

Environmental factors influencing plant growth and development

3. Define phototropism in plants and describe how it is different from photoperiodism.

> *your answer*

4. What are generally accepted as the lower and upper temperature limits for growth of most temperate region crops?

> *your answer*

5. For most plants, what proportion of their weight comprises water?

> *your answer*
>
> _____%

6. By the time an annual crop like tomato has reached maturity, about how much water has been taken up?

> *your answer*
>
> Approximately _____ times the quantity of water in the plant at maturity.

7.   What is meant by evapotranspiration?

```
✍   your answer




```

8.   How would you use knowledge of evapotranspiration for cultivation of your sunflower crop?

```
✍   your answer




```

Phase changes

9.   Describe three examples of physical changes in some plants that denote the change from juvenile to ripe-to-flower phase.   (NB.   Hartman et al. (1981) use the term "mature" instead of my term "ripe-to-flower").

```
✍   your answer





```

10. What are the implications for the horticulturalist who may want to take cuttings from plants exhibiting this phase change?

```
✍                                                                your answer




```

Flower induction and initiation

11. What do the following plants require to induce flowering? (NB. use the abbreviations for long days (LD), short days (SD), and daylength neutral (DN)).

```
✍                                                                your answer
cucumber
tobacco
spinach
cosmos
sugarbeet
tomato
 corn
```

12. What is the term used to describe the induction of flowering by exposure to low temperature?

```
✍                                                                your answer


```

13. List three horticultural crops which must receive such periods of cold to induce flowering?

<table>
<tr><td></td><td>your answer</td></tr>
</table>

14. List three horticultural crops which are self-inductive for flowering?

<table>
<tr><td></td><td>your answer</td></tr>
</table>

15. How would flower induction in sunflowers be classified?

<table>
<tr><td></td><td>your answer</td></tr>
</table>

16. What is the difference between the cold requirement for narcissus or tulip, compared with that of carrots?

<table>
<tr><td></td><td>your answer</td></tr>
</table>

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References

Hartman, H., Flocker, W.J., and Kofranek, A.M. (1981). Vegetative and reproductive growth and development. In H. Hartman, W.J. Flocker, and A.M. Kofranek (eds.). Plant science - growth, development and utilization of cultivated plants. (pp. 116-133). Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Department of Plant Science. (1995). Horticultural Technology: 71.122: supplementary readings No.4. (Available from Reserve Book Room, Library, Massey University, Palmerston North).

Appendix 14: Two examples of student responses to in-class exercises

Students were often presented with in-class exercises to ensure that they were understanding the lecture material. Sometimes these exercises were collected by the lecturer as feedback from the class – at other times they were simply discussed during the lecture. This appendix includes two different responses to the same exercise.

Irrigation principles:
a summary

Learning objectives:

By the end of today's lecture, I expect that you will have:

► formed your own framework of the relationships between the needs of the horticulturalist (e.g. profit, maintenance of a landscape), the requirements and responses of plants to water, and irrigation management.

Procedure:

1. In the space below, draw a diagram (in pencil) that shows the relationships between the needs of the horticulturalist (e.g. profit, maintenance of a landscape), the requirements and responses of plants to water, and irrigation management. You should do this by yourself (5-10 minutes).
2. We will review your answers to the questions in last week's irrigation practical.
3. Finally, and this is the most important step, having thought about the practical's answers, you should review your original diagram and make any alterations you feel are necessary (5-10 minutes).
4. Hand the diagram in at the end of the lecture. This does not make the exercise a test. Rather, it gives me a chance to see how effective my teaching has been and whether there are any gaps that I should be planning on fixing during the review week.

Irrigation principles:
a summary

Learning objectives:

By the end of today's lecture, I expect that you will have:

▸ formed your own framework of the relationships between the needs of the horticulturalist (e.g. profit, maintenance of a landscape), the requirements and responses of plants to water, and irrigation management.

Procedure:

1. In the space below, draw a diagram (in pencil) that shows the relationships between the needs of the horticulturalist (e.g. profit, maintenance of a landscape), the requirements and responses of plants to water, and irrigation management. You should do this by yourself (5-10 minutes).

2. We will review your answers to the questions in last week's irrigation practical.

3. Finally, and this is the most important step, having thought about the practical's answers, you should review your original diagram and make any alterations you feel are necessary (5-10 minutes).

4. Hand the diagram in at the end of the lecture. This does not make the exercise a test. Rather, it gives me a chance to see how effective my teaching has been and whether there are any gaps that I should be planning on fixing during the review week.

Appendix 15: Example of peer-editing sheet

Peer editing was used in the first cycle of project three. Experience in project 1 had showed us that unless peer feedback was carefully structured, it tended to be very non-specific. We therefore provided highly structured peer-editing sheets to direct the editor's attention to specific features of the text. This appendix is one of example of how we directed peer editing.

Peer Editing Sheet—Microtheme

Writer's name ....

Peer editor's name ....

Read through the writer's microtheme twice. Then fill in the following sections:

Content

1. Has the reader clearly stated the purpose of the writing at the beginning of the microtheme?

2. Has the writer stated what information is needed? (List the different types of information, using your own or your writer's words.)

    1.

    2.

    3.

3. Has the writer identified the steps that must be completed? What are they? (List, using your own or your writer's words.)

    1.

    2.

    3.

    4.

4. Do the steps outlined in #3 and the information used in #2 stand out clearly to the reader? (eg Are they placed in topic sentences? Are they listed?) If you were the curator, would you know exactly what to do to write a management plan?

5. How could the writer clarify these main points for the curator? (Give specific suggestions.)

Structure

4. How has the writer formatted the microtheme?

Is the formatting appropriate for a professional context? If not, why isn't it appropriate?

How might the format be improved? (Be specific.)

Style

5. Is the language used by the writer appropriate for a formal context? Write any examples of inappropriate language below.

Could any improvements be made? (Be specific.)

6. On the microtheme, put a cross in the margin next to any mistakes in grammar, punctuation or spelling.

Overall

7. What aspect of this microtheme is most effective?

8. What one thing could the writer do to most effectively improve this microtheme?

Signature of Peer editor .... Date ....

Return this sheet to the writer and, if time permits, discuss your comments.

Appendix 16: Examples of journal exercises

In project three, students were given directed entries for their journals. The first five examples provided here involve reflection on personal learning and understanding in the light of class activities or material presented in the paper. The last two are audience-specific and ask students to present material studied in class to a specific audience.

Journal Entry

Semester break experiences

During the five week break from lectures you will have had some experience that is relevant to the course content presented in Semester 1. This experience may have been simply driving down a tree lined street, observing a park, buying horticultural produce which had to be scheduled, or maybe even working on a horticultural enterprise.

Reflecting back on the topics covered during Semester 1, write about your most important horticultural experience over the semester break.

Journal Entry

Tables and graphs for summaries

On a number of occasions in last week's lectures we interpreted graphs and tables as part of 'in-class' exercises. Reflecting on these activities describe what you learned about either irrigation or plant density, how you learned this information, explain what you thought were the positive and negative aspects of interpreting tables and graphs in your learning, and why you formed your opinions.

Journal Entry

Company review

During week 10 you were involved in a practical that focused on working in teams and the roles that team members can perform. The journal entry for that week asked you to reflect upon your experiences with your company as a team and propose ways of making it work more effectively. Given that this was many weeks ago and that you will soon be planning the company report on sunflowers, it is opportune to reflect once again on these comments and proposals.

- describe your experiences in the company since week 10 (both good moments and moments of difficulty).
- describe how you believe the team has evolved during the year, highlighting what events resulted in changes in the way you, other individuals or the whole company performed.
- reflect on the ways you proposed in week 10 that members of your company could contribute more effectively to the group's achievements, and indicate which if any have been effective and why.

Journal entry

Learning from the exam

Spend about 30 minutes reviewing the examination.

Ask yourself what changes you would make in your preparation if you were to sit the exam again. You might consider whether you would organise your folder of notes, journal entries and practicals in the same way. How would you approach the readings next time—would you spend more or less time on them? How you think the teaching staff could have better prepared you for the examination?

Journal entry #2

A. Select one landscape in your home town area.

  ▸ Briefly describe that landscape.

  ▸ Where does it fit on the landscape continuum? What features led you to conclude that it belonged in that position?

B. Turn to Topic 2 in the Readings and read the first five short readings (Fairbrother, Zonneveld, Westoff, Jackman, and Melnick). After reading...

  ▸ Would you alter the structure of the landscape continuum discussed in class; how and why?

  ▸ Would you alter your conclusions on your home landscape; how and why?

Journal entry # 4

Microtheme

The Chief Planner at the Palmerston North City Council has contacted you and told you that major earthworks and roading are being planned for the Esplanade as part of a new traffic plan to relieve congestion at the bridge. Your area is likely to be destroyed if the plan goes ahead.

The planner has asked you to write her a memo summarizing the benefits of your area so that this can be used as evidence in the planning decision.   (60-90 minutes)

Microtheme

Suppose that you are Professor Plant, the questions-and-answer person for a magazine targeted at non-professional horticulturalists called *Plants Like Us*. Readers of your magazine are invited to submit letters to Prof. Plant, who answers them in "Dear Abby" style in a special section of the magazine. One day you receive the following letter:

Dear Prof. Plant,

You've got to help me settle this argument I am having with my cousin Nora from Christchurch. We are both involved in growing a crop of *Gladiolus grandiflorus* 'Brigitte' for our cousin's wedding on 1st May next year. While we will both receive the corms from the same supplier, Nora will grow her crop in her garden at Christchurch and I will grow mine here in my garden in Gisborne. Nora says that her *Bert Fig's Gardening Book* says that if we are to both have our plants flowering the day before the wedding, i.e. 30th April, we both have to plant them exactly 90 days before. I said she was wrong as the instructions on the packet said 1477 growing-degree-days required - what ever they are. Besides, if plants don't have brains, how could they possibly know what the date was, and, therefore, know to flower in 90 days from planting? Ever since then she hasn't been talking to me. Since we both have to work together on producing these flowers we need to resolve this argument. We checked some other plant books, but they weren't very clear. We agreed that I would write to you and let you settle the argument. But, Prof. Plant, don't just tell us who is right and who is wrong. You've got to explain how we can both attempt to grow our crops for flowering on this date, so that we both understand. Nora is so pig headed that unless it is explained clearly and simply she won't believe anyone.

Yours Sincerely
Gladus and the Pips.

Can this kindred friendship be saved? Your task is to write an answer to Gladus and the Pips. Because space in your magazine is limited, restrict your answer to a maximum of 500 words (excluding figures and tables). Don't confuse Gladus and Nora by getting too technical. If you do need to use technical terms then explain clearly what they mean. In preparing your answer you might like to

refer to the meterological data for where Nora and Gladus live (Ministry of Transport, 1983). If you think some figures or tables might help, include them on a separate sheet.

References

Ministry of Transport. (1983). <u>Summaries of climatological observations to 1980</u>. N.Z. Met. Ser. Misc. Pub. 177. New Zealand Meteorological Service.

Duplicate copies of this reference are also held in:

Department of Plant Science. (1995). <u>Horticultural Technology: 71.122: supplementary readings No.4</u>. (Available from Reserve Book Room, Library, Massey University, Palmerston North).

Appendix 17: Audience-focused writing

The major assignment for project three was the sunflower project report which was written by each of the sunflower 'companies' in three different genres for specific audiences. This appendix includes student instructions on how to write this assignment. Note that students are provided with examples of the genres and instructions on how to go about the process of writing such a major assignment.

The sunflower project report

Expected learning outcomes

▸ To gain proficiency at writing for three important audience types encountered in horticulture (intelligent but uninformed; grower-clients; experienced growers).

▸ To increase your abilities to integrate the lecture, practical and reading material into focussed pieces of writing.

▸ To be able to organise information and manage data in preparation for written reports of the sunflower project.

▸ To gain experience at working together in a group to meet a deadline.

▸ To provide you with the basis of the oral presentation of your group's project.

Overview

The report will consist of three exercises. In the first, you will write about a section of the sunflower project (Table 1) in the form of a chapter in a textbook suitable for horticulture studies in secondary schools. Each section will be between 2-4 pages. (500-800 words). These sections will be combined into a complete (full) chapter. One member of your group will be nominated as editor: it will be their responsibility to bring the sections together into a seamless chapter.

In the second exercise, you will transform this writing into a form suitable for a report to a grower-client. Each section will be between 1-2 pages (300-500 words) in length. Your group's editor will be responsible for bring the sections together into a seamless report.

The third exercise involves a 'distillation' of the grower-client report down to a production blueprint of the type commonly found in industry journals. Each member of the group will transform their sections into the required format. The group's editor will take responsibility of bringing these sections together as a seamless production blueprint. Each section will consist of 1-2 paragraphs (100-200 words).

Each member of your group will select at least one of the subject areas listed in Table 1. The topic you select should preferably be one that you are interested in. If a colleague in your group also selects the same subject area as you, you will have

to negotiate a compromise—one of you will have to accept a second preference as no 'doubling-up' of subjects is permitted. Once you have a subject area, you will be responsible for developing that area for all three audiences. You cannot change subjects 'between' audiences. The number of subject areas (and categories within those areas) selected by each person will depend on the size of the group. Not all subject areas must be undertaken: this will depend on the number of people in the group.

Table 1. Major subject areas and topics for sunflower project

Subject area	Topics
Greenhouse layout	Maximising productive area. Bed dimensions. Orientation within the greenhouse. Planting density. Gross Margins.
Production system	Growing medium. Physical characteristics (e.g. AFPS). Chemical characteristics (e.g. nutrition, pH, cF). Irrigation (e.g. method, frequency, application rates).
Production scheduling	Construction of production tracks (to be covered in lectures during week 20). Interpretation of production tracks (e.g. growth cycle [from propagation to harvesting], recommended planting dates [with respect to auction prices]).
'Marketing'	Price movements over time. Relative performance of cultivars (e.g. stem lengths and within-cultivar variation in stem lengths). Postharvest handling. 'Best' type of flower (e.g. large or small diameter).
Environmental responses	Crop response to environment throughout its production cycle. Changes in crop performance to changing environments during the year.
Experiments	Introduction Materials and Methods Results Discussion

Each group has been assigned one of the academic staff to guide them through the project. The role of the staff member is to act as a facilitator. For example, your group's facilitator will help you allocate the subject areas and category headings within your group. This role will be particularly important for groups with only 3-4 members. The facilitator will ensure that the small groups are not disadvantaged

by the number of topics they must cover in their writing. The facilitator will also assist the group's editor, and will help you adapt your writing for the different audiences.

Table 2. Facilitators assigned to each group.

Happy Sunflowers Flower Power	Lisa Emerson
Sub-zero Sunny Sunflowers	Keith Funnell
Sundial Corporation The Flower Production Co.	Marion MacKay
Hydrosun Happy Flowers Inc.	Bruce MacKay
Helianthus Hydroponics	Eddie Welsh (Bruce will deputise in Eddie's absence)

You are not expected to submit a word processed report. Handwritten reports are perfectly acceptable (provided the writing is legible).

Exercise 1

The audience type for the first exercise is intelligent, but uninformed. The actual audience is a fifth-form class studying horticulture. Your group's task is to prepare a chapter entitled *Fundamentals of horticultural crop production* in a text book written with this audience in mind. In this chapter, you are to describe how, and explain why, the sunflower can be used to demonstrate the general fundamental aspects of horticultural crop production.

Your task is to write about your subject area from the point of view of what the important issues are, and why and how producing sunflowers can provide students with hands-on experience of these issues.

The layout of this chapter is to follow that used in *Introduction to Floriculture* (R.A. Larson). A copy of this book is held in the Reserve Book Room of the library.

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Exercise 2

The audience of this exercise is a grower-client, in other words, a grower who has engaged you to produce a report on production of sunflowers as a cut flower crop during the late summer—winter period.

The format of this exercise should follow that outlined in the accompanying box. This format is a modified version of the basic report to a client presented in the Ag/Hort Faculty's *Style Manual* (L. Emerson, 1994). You should consult this publication for further details of the elements of this type of report. The group's editor will be expected to bring all the sections (written by the other members of the group) together into a single report and to write the report's Table of Contents, Executive Summary, and Introduction.

> **Format of client report**
>
> Letter or memo to client
> Title page
> Executive Summary
> Table of Contents
> Introduction
> Discussion
>   Greenhouse layout
>   Production system
>   Production scheduling
>   ... etc.
> Recommendations (if appropriate)
> References

Exercise 3

The audience of this exercise is experienced growers, and the format to be followed is that of a production blueprint. Examples of such blueprints are given in Supplementary readings No.2: Styles of written communication (71.122 Horticultural Technology). Copies of this are held in the Reserve Book Room of the library.

This form of writing is particularly 'tight' and leaves no room for verbosity. Your writing must be succinct and to the point. As you will observe when you come to read examples of production blueprints, their main focus is on the 'how-to' rather than the 'why' of crop production.

Once again, it will be the responsibility of your group's editor to ensure that the blueprint 'comes together' as a uniform and organised piece of writing.

Appendix 18: Assessment of the sunflower practical

Marking group projects is always difficult, especially when individual input and peer assessment is included in the process. This appendix provides information, as given to the students, on how the group work was marked. In the second cycle, we included workshops on group roles to ensure that students could more effectively evaluate each team member's contribution to the group work.

Appendix 3: Assessment of the sunflower project

Two components of your final assessment are linked to the sunflower project. First, 10% will be awarded for an oral presentation of your group's work. Second, a written report based on the sunflower practical project contributes 20% to your final mark. Details of the structure of this report are given in Appendix 2.

We will award a single mark to each group based on their written report. The proportion of the mark awarded to your group that you receive will depend upon the extent to which you did *your fair share* of the project (i.e. input into the planning and production of the crop, analysis of data, preparation of written report).

Assessing your contribution to the project is straightforward and, we think, very fair. Each of you will make a judgement (expressed as a percentage) of the extent to which you and each of your colleagues did *their fair share* (Table 3). This assessment will be confidential between you and us.

Table 3. Individual group member's assessment of her input and those of the other members of her group.					
Your name	Members of group				
	Jill	John	Jack	James	Jethro
Jill	100	100	10	10	80

In this example (Table 3), Jill considers that she and John were the major contributors to the project, that Jack and James only did about one tenth of the work they (she and John) did, and that while Jethro made a major contribution, it was not quite up to the level of her and John.

We will collate the data from each member of the group (Table 3). We will remove a single value at both extremes and average the remaining data (Table 4); you will receive that percentage of the group mark.

Table 3. Collated data from individual group members.

Student's name	Members of group				
	Jill	John	Jack	James	Jethro
Jill	100	100	10	10	80
John	100	100	20	60	80
Jack	100	100	100	100	100
James	100	100	15	100	100
Jethro	80	60	30	80	100

The removal of an upper and a lower value is necessary to remove intentional bias. Jack wasn't portraying a realistic view of how the group had worked: only he thought that he had done his fair share. Jill clearly had a problem with James that was not shared by any other member of the group.

Now, if we assume that the mark awarded to the group's report was 85%, the mark awarded to each member of the group is based on the average of the remaining percentage contributions (Table 4).

Table 4. Calculation of the final grade for each individual in the group.

Group mark	Members of group				
85%	Jill	John	Jack	James	Jethro
	~~100~~	~~100~~	~~10~~	~~10~~	~~80~~
	100	100	20	60	80
	100	100	~~100~~	~~100~~	~~100~~
	100	100	15	100	100
	~~80~~	~~60~~	30	80	100
Average (%)	100	100	22	80	93
Final individual mark	**85%**	**85%**	**19%**	**68%**	**79%**