

Writing in a New Zealand Tertiary Context: WAC and Action Research

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In order to understand WAC in New Zealand, it is necessary to sketch in some background information. First colonized by the Maori and then primarily by English and Scottish settlers in the early nineteenth century, New Zealand is, in many ways, a young country. The first higher education institution, Otago University, was established in 1869. Less than two hundred years later, higher education is firmly established through eight universities, which are the main degree-granting institutions, many more polytechnics, which are similar to community colleges in the US, and private institutions. In 2001, the country had a population of approximately 3.8 million people, and a higher education rate of 14%, 2% below the Organization for Economic Cooperation and Development mean of 16%. While the official languages of New Zealand are English and Maori and students have the right to be examined in either language, English remains the almost universal language of New Zealand higher education, for course delivery, information acquisition, and student assessment.

University undergraduate degree structures are generally three years long, although for specialist courses (e.g. engineering, technology, and medicine) a four- or five-year degree is not uncommon. Degrees are based on a number of courses, with a certain number of courses in a specific subject required for a specific major (for example, a student majoring in sociology might be required to do 24 courses for their degree, of which 10 might have to be sociology courses). Some degree programs will specify not only the number of courses in a particular discipline required for a major but also specific courses which must be taken. However, some choice is generally allowed to meet the needs of students with particular

interests. Each course has the same credit value and usually comprises a series of lectures and tutorials (or tutor-led group discussions) over a single semester (13 weeks) or over a double semester (26 weeks). Twenty years ago, students were generally assessed for final grades solely on the basis of examinations, although they were commonly asked to submit written assignments as part of their formative assessment. More recently, however, there has been a strong movement towards internal assessment, and students are now most commonly assessed through a mixture of written assignments, tests, and examinations—and in some subjects, students may be assessed totally through written assignments.

Teaching writing in New Zealand Universities

Where the New Zealand undergraduate degree differs most clearly from similar degrees in the United States is in its lack of a general education program. Students move straight into their areas of interest in their first year, and there are no university-wide compulsory courses. There is no history of first year composition courses, and such courses still do not exist as compulsory courses across the whole university curriculum in any university in New Zealand. This situation may be attributed in part to the historical homogeneity of students entering the university. In the past, students entering university arrived straight from their final year of high school, having achieved a certain standard on final-year state-controlled examinations.

However, the last twenty years have seen a change in the range of students entering university. Because of changes in economic policy brought about by reformist, right-wing governments, a huge increase in unemployment led to more mature students without high-level schooling entering the university system, either for the purposes of higher education for its own sake or to enable a career change¹. Changes in employment practices, shrinking employment possibilities, and reduced access to apprenticeships have also led to more students with lower qualifications entering the university system. The consequence has been a more heterogeneous student body, while the universities have made few changes to their structures and curriculum to prepare under-qualified students for university study. While there have been increased complaints about the standard of student writing, no univer-

sity in New Zealand has taken the step of introducing a compulsory writing program for all students.

Nevertheless, starting in the mid-1980s, most university English departments began to introduce a writing course as part of their undergraduate offering, although such courses are optional for students in most majors. Most of these courses follow the approach of a standard freshman composition course—indeed, Emerson's 1995 survey of people designing these courses showed that many came from North America and had taught such a course during their graduate years in the United States. At the same time, learning centers, with some of the features of a North American Writing Center, began to be established on an *ad-hoc* basis, financed temporarily by government-provided equity funding.

Emerson's survey of writing instruction in New Zealand universities revealed the extent to which writing was taught in New Zealand universities and the conditions of those employed to teach writing:

- Both writing support and direct teaching of tertiary writing are recent developments in the tertiary curriculum. In most institutions, writing courses and support have only 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). Furthermore, writing teachers within the same institution (for example an academic teaching a writing course from an English department and a writing consultant in a learning center) generally seem to have had little contact with one another and often do not see themselves as being professionally connected.
- Until recently, writing teachers had no connection with a national professional body, and there appears to have been limited connection across universities.
- Resources for the teaching of writing generally have been very poor. Tutors in writing courses and writing consult-

ants in learning centers have tended to be employed on casual contracts and paid at a rate that does not reflect their experience or skills or the complexity of the task in which they are engaged.

- 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 programs or Writing Centers, 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.
- Because the teaching of writing is such a recent phenomenon in New Zealand, many teachers of writing here do not have a research background in this field. Many come from related disciplines such as literature or education or even from second language teaching, and they have gained their knowledge “on the job.”

As in many other universities around the world, New Zealand students were expected to arrive at university with the necessary writing skills, and if they needed to improve their skills, this was seen as their responsibility, possibly even as a sign that they were not suited to university education. However, this attitude is changing, partly due to research on graduates and partly due to the new diversity of the student body—but also because of employer surveys. These surveys were a major impetus for the WAC program—the first fully developed WAC program developed in a New Zealand university—described in this paper.

The Context of the WAC Program

The writing project in this study took place within the Agricultural and Horticultural Sciences program at Massey University, which is situated in a provincial city in New Zealand. Developed in 1927 as an agricultural college, Massey acquired university status in 1963, and it is arguably the largest university in the country, with 11,329 internal and 17,355 extramural students when the project began.²

The implementation of the writing project coincided with the development of a new degree in Agricultural and Horticultural Sciences, the Bachelor of Applied Science. It was a time of rapid and radical curriculum development, and this climate of change undoubtedly facilitated the acceptance of the projects. There had been concern for some time about the writing skills of students in the discipline, and various approaches to the problem had been attempted. One was the adoption of a generic writing course taught through the English department; another had been an *ad hoc* arrangement that simply legislated that all staff must teach writing skills. Neither approach had been seen to be very successful. Furthermore, surveys revealed employers saw generic skills—communication, problem solving, and teamwork—as being as important as technological skills.

The Faculty of Agricultural and Horticultural Sciences undertook three distinct WAC projects as part of a single WAC program. Two of the projects involved the development of a first year “Communication in the Sciences” course and a “Writing throughout the Discipline” program (Holyoak). This paper focuses on the third of these projects—the development of a writing intensive horticulture course that incorporated both writing in the disciplines and writing-to-learn strategies within its core pedagogy.

One of the difficulties we faced was that we had to base our understanding of WAC entirely on the literature on the topic (although I should add that we were greatly helped by two email lists: WCenter and WAC). No-one we knew had any practical experience of a WAC program. Moreover, much of the literature on WAC assumes an understanding of the terminology of North American universities (What was a writing intensive course, for example? Did non-writing intensive courses assign any writing at all? What was an upper-division writing course? Who taught it? Sometimes the answers to these questions were strangely opaque to people with limited contact with North American universities).

In preparation for our WAC course, we surveyed the literature on WAC and writing in North American universities and synthesized our findings in a formal document that would aid in the design of our program. Since we also made an early decision to run the project using an inter-disciplinary team, we also completed a literature review of approaches to collaboration in WAC programs. It was surprisingly difficult to find

models of collaboration that we felt suited our situation. Our team comprised a writing teacher with experience in teaching generic writing skills, no experience of writing in the sciences, and a theoretical (as opposed to practical) knowledge of WAC, and three horticulture teachers with a close familiarity of the discourses of their discipline(s) but no experience of teaching writing. We decided we needed a truly democratic approach to using our team, with no one person taking a consultant or leadership role, since there was no one person in the group who could take on the role of advisor—we simply had a group with complementary skills. For a model of collaboration, we looked outside the literature on WAC to a style of research that many of us had had experiences with in other fields: action research.

Action research

Action research in education has most commonly been seen as emerging from the social research studies of Kurt Lewin in the 1940s or from Dewey's 1929 approach to teacher involvement in educational research or the Science in Education movement of the last decades of the nineteenth century (Kemmis and McTaggart; Zuber-Skerritt; McKernan). 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. (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 definition of action research emphasises both of these factors:

Action research 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. (5-6)

In essence, then, the following five features of action research were of particular importance to our projects:

- 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*,
- and the dual foci of action and research.

The action research process

Action research is not a linear, single process of change. Often, it is characterized as a recurring spiral, with four “moments” within each cycle: planning, action, observation, and reflection. When one cycle is completed, reflection leads into re-planning, and so the cycle begins again. Figure 1 shows how this cycle is schematized.

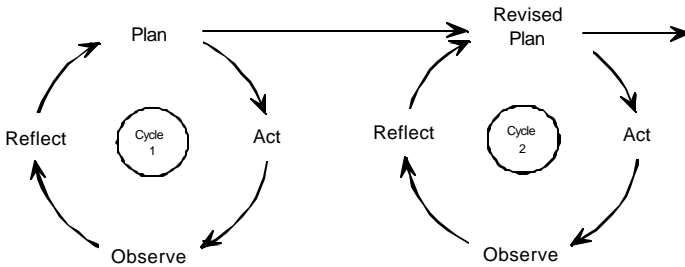


Fig 1 The action research cycle (after Zuber-Skerritt, 1993)

The literature on action research suggests a number of ways of starting the research cycle. To Winter, the action research process begins with a question; to Selener, a problem; to Elliot, a hunch or general idea. Nevertheless, this question, problem, or hunch is generally practical rather than theoretical, and it instigates the entire action research process. In these projects, our question was “how can we more effectively teach writing to science students?”

Planning proper begins with a reconnaissance: where are we *now*? Winter 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?

Once the present situation is analyzed, the planning-for-action stage can begin. This involves working out goals and objectives that can be realized 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.

The next steps in the action research cycle are action and observing/monitoring the action. Clearly, the planning process will have involved decisions about observation techniques. Action research usually involves triangulation, that is, the use of multiple observation techniques (Zuber-Skerritt; Bunning). 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.

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.

The final stage is reflection, a critical aspect of the action research approach. Linked back to the planning and action stages, reflection makes sense of our observations, leads to better understanding, and, hence, stimulates further change in action and practice. Reflection may take place continuously and/or at the end of each cycle.

This, then, was the basic process followed by the team that developed a writing intensive approach to teaching horticulture. We followed the process as closely as possible, allowing for contingency and continually re-adapting our planning to meet the real context in which we found ourselves. The following section details how we followed the action research structure in the development of our horticulture course.

Action research in practice: WAC in Horticultural Technology

The first year, undergraduate, horticulture course we were designing was to be a full year (two semester) course; we therefore decided to run each action research cycle over the nine months of the academic year (late February to late October in the southern hemisphere) with major reflection meetings at the end of each cycle. Moreover, because any action research

project needs at least two iterations to truly examine the success of the project, the project ran for two years.

The team first came together four months prior to the beginning of semester 1 (late February in New Zealand) and met weekly to conduct its analysis of the situation and complete the first planning phase. The group comprised three teachers of horticulture and landscape management, one technician, and one writing consultant. The team knew one another from working together in different contexts but had never worked together as a team before the WAC project. During the planning phase for the project, the team identified its key question and objectives, and various members of the team conducted a reconnaissance and analysis of:

1. the teaching of horticulture in the department prior to the development of this course;
2. how writing had been taught in the department prior to the development of the course;
3. how WAC operated in North American universities;
4. models of collaboration in WAC projects in the US; and
5. the social, physical and educational context in which we were working

Next, the team identified the methods it would use to integrate writing into the horticulture curriculum, the data collection methods it would use to ensure appropriate and complete observation and analysis of the project, and how often we would meet to conduct on-going observation and reflection.

The question we began with was two-fold: how can we improve our students understanding of horticulture through writing, and how can we best to improve our students' writing skills in relation to the genres and disciplines of horticulture?

The student writing projects that we decided would meet our teaching objectives included journals of both structured microthemes and unstructured or semi-directed reflection, reports that required students to focus on different audiences using different genres, in-class exercises, and reflections on readings.

Care was taken to explain the purpose and design of each assignment to the students. Here is an example explaining to students why they were required to write a journal. Note the

way the course coordinator has linked student writing to that of professionals within the field:

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....

... journal writing will help develop your ability to think intensely and productively; 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 intensely and productively”) and a learning-to-write agenda (“you will become a better writer, a better communicator”) are included and that these points are linked to the requirements of employers. In this way the intrinsic and extrinsic benefits of writing were highlighted for students.

Part of the overall philosophy of the group, which came out of the planning process, was to make its teaching approach transparent to the students. We emphasized 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 emphasized and made clear the process of action and reflection we were engaged in as a way of modeling the action and reflection process we expected of the student group. The teaching approaches of the course were introduced to the students in the administration guide at the beginning of the course and this included the concept and procedures of writing-to-learn.

The data collection methods we decided on included the following: staff journals (to be kept throughout the entire teach-

ing time), student journals, focus group interviews with randomly selected groups of students; and the random collection of student assignments, journals, and microthemes. We agreed to meet weekly or fortnightly, depending on work commitments, to ensure that we continually monitored our progress through group discussion and to consider whether any changes needed to be made to our strategies to improve their effectiveness.

The reflection for this first cycle, then, was an almost continuous process through staff journals and from the ongoing group meetings. Feedback to the group was provided on a more formal basis when focus groups were conducted. To conduct effective focus groups, teaching staff were asked, prior to each focus group, to provide a series of questions to address any aspect of the course on which they required feedback. 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.

Both student journals and student focus groups proved to be rich and effective ways of providing feedback to the teaching staff. Indeed, the teaching group reached the conclusion at the end of cycle one that student journals provided feedback that could not have been achieved through direct student observation.

At the end of the project, the group met for a series of meetings to analyze the improved strategies used in that cycle and to discuss the project as a whole. The findings in relation to student writing are discussed in the following section.

Findings.

The writing tasks that the students engaged in during the WAC project included:

- a journal, which included teacher-directed reflection exercises, self-directed entries, and microtheme assignments;
- three group reports to varied audiences;
- in-class exercises; and
- responses to a series of readings.

The journal

The journal consisted of a combination of regular, self-directed, self-initiated entries and teacher-directed journal entries. These latter entries were generally reflective, requir-

ing 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.

Microthemes were included as another form of writing in the journal (Work; Bean, Drenk, and Lee in Griffin). Thus, the journal combined reflective, expressive writing and transactional writing. A microtheme, as described by Bean et al., is a very small assignment ($\frac{1}{2}$ - 1 page is normal) that operates on a principle of leverage "in which a small amount of writing is preceded by a great deal of thinking" (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. At other times, students were asked to defend an opinion to a particular audience, using appropriate formatting and language. Other microthemes required students to simply apply course content and information gathered in practical classes in a new context.

In assessing the value of the journal, we initially asked (through focus groups and through guided journal entries) whether the students could see the point of doing the journal. Their comments, on the whole, were positive, confirming our aims that the students' understanding of the course material would be improved through writing the journal and that it would also improve their writing. But we were interested to hear that there were other, unexpected benefits – for example,

several students commented that the journal helped with other things such as creativity and vocabulary.

There were some negative comments, but these were useful in terms of providing feedback about difficulties students were facing. One group of students, for example, discussed the difficulty of maintaining momentum with the journal and the time taken over the journal entries and the microthemes. This suggested we had underestimated both the time students would take to complete entries and the kind of motivational support that was required. Fine-tuning of the journal was thus made possible through this feedback. In this instance, we made more effort to correctly estimate the amount of time required for guided journal entries and designed new guided journal entries with a time restriction in mind.

Group reports

One of the major components of the course was a practical exercise, which ran through the whole length of the course. 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 course, 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 required students to write a chapter on how to grow a crop of sunflowers for a hypothetical book, *The Fundamentals of Horticulture*, pitched at high school students. The second project 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.

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 practical project and to explain that purpose. They were required to use language appropriate to a High School audience, a less concise style that 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 modeled and described in Emerson and Hampton's *Writing Guidelines for Applied Science Students*; and the groups were provided with a model of a book suitable as a school text.

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, fluent, and 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.

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.

In-class exercises

As far as possible, the teaching team extended writing-to-learn into classroom activities. These in-class activities included brainstorming sessions, mind maps, problem solving exercises, peer-editing and journal writing during class, and worksheets. 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. So, did it work? Student feedback about these exercises was very positive, with almost all students stating that they learnt more through the exercises than they would have through a straight lecture. They suggested that their learning and concentration was improved through class-focused or individual writing in class.

Readings

One of the issues for the teaching team was modeling different styles of writing for the students. Of particular concern was recognizing what sorts of writing were used by the industry, rather than focusing exclusively on types of writing with which academic teaching staff are familiar.

The course coordinator undertook to produce a series of readings that 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 context³) as well as from academic journals.

Other sets of readings were produced for the three sections of the course 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 guide⁴. The readings were a compromise, aiming to meet student needs without providing prescriptions, and they could also be used as models by students for various exercises within the course and in their wider degree course.

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 course, 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. Student feedback suggested that first year students may be unaware of the importance of readings in a course unless the significance of those readings is made very clear to them on a regular basis. Feedback provided a stark reminder of the discrepancy between a lecturer's expectations and the expectations and understanding of class.

On the basis of this information, teachers were able to make adjustments to ensure students did understand what was expected of them. They did this by requiring readings to be done on a weekly basis, by including a tutorial on critical readings skills, and by discussing set readings with the students each week.

Key issues: student attitudes towards writing.

Broader effects

Perhaps the most significant result to emerge from the project was the change in students' attitudes to the importance of communication skills to horticulturists. In the final focus group for Horticultural Technology, we asked students the following question: "If you had to summarize 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; fifth, innovation. This repre-

sented a dramatic change from the attitudes expressed by students enrolled in Communication in Applied Science three years earlier.⁵ (see Emerson, 1999). Clearly, this project had helped students to see the value of developing their writing skills in an applied science curriculum.

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 realize that we had included both a writing-to-learn and a learning-to-write approach. Yet, once we recognized 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 and 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 course. 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-audenced 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, with their novel audience and problem, were entertaining or because they were challenging. Stu-

dents' 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.

Benefits to staff—the journal and qualitative feedback

One of the most unexpected results was the benefits to the teaching team of writing a journal and of obtaining 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 course 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:

I've been reading the focus group transcripts. An issue arising from this, and which I have just spoken with [the course 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.... 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 course 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.

Through reflection in his journal, this teacher understands a problem, makes an acknowledgement of the need for progressive learning, and decides to act on it.

As well as reflecting on other aspects of the course 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. This 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.

Staff also commented on how reading back in their journals 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.

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 programs in that they have a unique capacity to allow staff to inspect their own cognitive routines.

Broader effects

The use of writing-to-learn strategies spread very quickly within the horticulture group. In the year following this project, one of the teaching team for Horticultural Technology took over the course coordinator's position for the second year horticulture course, and so the writing-to-learn strategies (including microthemes and in class exercises such as mind mapping) became incorporated into that course. Because that course was team taught, far more members of the Horticulture group became exposed to this style of teaching. At the end of the following year, a proposal was put before the Horticulture group to teach upper-level courses according to a new pedagogy that included writing-to-learn, and this was accepted. Hence, using writing as a learning strategy became a part of the core horticulture course within three 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 courses. Furthermore, members of the teaching team ran staff development workshops for the university's teaching development unit (TDU) on the use of writing and active learning strategies to stimulate learning. Thus, this project moved beyond the immediate to influence the wider academic and research environment.

The use of action research in a WAC project

One further question we must answer is this: was action research 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.

In particular, action research produced a quite unexpected spin-off in this WAC project. While the staff was committed to a collaborative process of developing the course, the action research process also allowed the students to become very engaged in this development. One of the things we were committed to doing was modeling to the students the sorts of learning activities we were asking them to engage. Therefore, the staff would talk in class about things we 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 course. Action research, therefore, allowed us an unexpected aspect to our collaboration—the full involvement of many of our students in this learning experience.

Conclusions:

Teaching writing is still in its infancy in New Zealand, and the WAC program discussed in this paper pioneered the use of approaches described in North American literature in a New Zealand tertiary context. This was a difficult experience, largely because so many of the structures that are assumed within North American WAC programs could not be assumed in the New Zealand context. Furthermore, much of the terminology used in the description of North American writing program is not easily translatable to those who have no experience of such a system.

Nevertheless, we used a methodology—action research—which allowed us to take into account the specific environment in which we were working and to adapt our limited knowledge to the new program. Our WAC program positively impacted on students' attitudes to the value of writing as part of the curriculum. It also had a long-term and pervasive impact on the curriculum; since this project was developed, the

writing pedagogies we used have been integrated into the second and third year horticulture curriculum

Translating WAC from one context to another is not an easy process. When the different contexts involve barriers of language, systems, and physical access, the process is further complicated. Despite this, the WAC program described here showed that WAC can translate across national boundaries, and that the structure of a WAC program may be transformed in the process. The key is to be conscious of, even embrace, the differences of structure and curriculum and to place the program in a real, dynamic context.

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Endnotes

- ¹ Note that most universities in New Zealand have virtually no entrance requirements, not even completion of high school, except in some subject areas such as medicine, where entrance is competitive.
- ² Extramural students are New Zealand students studying degree courses off-campus, either within New Zealand or abroad. The curriculum is delivered via study guides and on-campus short courses, and increasingly via the Internet.
- ³ The course 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, Fruit Growers 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 New Zealand. commented that poor writing skills had been recently identified as one of the major failings of consultants within his organization" (22.2.95).
- ⁴ A study guide at Massey is a course guide. Often it provides extensive material on the content of the course, ei-

ther as an alternative to lectures or to reinforce lecture material, and may include key readings.

⁵ See *Emerson (1999)*.