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Integrating Discipline-Based Reading to Improve Intercultural and International Learning

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Abstract

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Keywords

Discipline english, Paired model, Content model, Paired reading program

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Abstract

With the number of alternative pathways now available for entry into Australian universities, the number of international students is steadily increasing. This article reports on the undergraduate results of a teaching project at the University of Canberra, Australia, and explored whether the introduction of a discipline-based reading program into an existing university preparation course would result in an improvement in international students' learning in the discipline and increase their proficiency in the English language.

Using data drawn primarily from results of written feedback from students and lecturers, in-depth interviews with students, comparison of student grades in both English and content subjects, and ongoing assessment data, this article found that the introduction of the discipline-based reading program during the length of the project was highly beneficial in that it facilitated improved learning outcomes for international students. This article advocates that discipline-based reading instruction positively benefits international students in their first year of study.

Key words

Discipline English, paired model, content model, paired reading program.

Introduction

Prior to 2005 the number of international students seeking undergraduate and postgraduate degrees in Australian universities had increased significantly. In the previous 8 years, Australia has witnessed a rapid increase of full fee paying international students from 56,000 EFTSU (Equivalent Full-time Student Unit) in 1996 to 125,000 EFTSU in 2002, and the University of Canberra (UC) has seen a similar increase with 663 in 1996 to 1600 in 2002 or from 10.03% to 20.6% of total EFTSU (University of Canberra Statistical website 2004). Given this notable rise Australia-wide, UC has had to address the issue of internationalisation at the policy level and embed this concept into its strategic plan. At the highest strategic level

"Canberra University seeks to develop an internationally oriented and respected institution" (University of Canberra Strategic Plan 2003-2006). This commitment to internationalisation prompted the (then) Vice-Chancellor to outline the educational characteristics required of institutions, which aim to accommodate the international student body. Mullins, Quintrell & Hancock (1995) considered that language requirements, cultural expectations, differing learning approaches, flexibility in the curricula and teaching methodology were crucial in providing the institutional support required to meet the needs of international students. The University incorporated these ideas into its strategic plan to improve the learning experiences of its international students.

In addition, opportunities for entry into Australian universities have also increased with the introduction of a number of alternative pathways. These bridging programs may offer a sheltered first year of study to international students who have not yet met the university's full entrance requirements. Nevertheless, when these students enter mainstream programs, often it is clear that they are not able to meet the rigorous demands of their academic courses. In order to assist international students to achieve sufficient English proficiency levels and acquire appropriate academic study skills to succeed in the enrolled programs, many universities now offer a number of foundation or pre-academic English programs, such as English for Academic Purposes (EAP).

Universities recognise these difficulties that international students face in content courses and are seeking ways to help students resolve the language and cultural gap. As a result, the content-based approach where language is taught through content in the form of an adjunct course (Snow and Brinton, 1988) has been incorporated into various tertiary programs. Therefore, English language support is linked to the academic content course and both English and mainstream staff work closely together to develop curriculum and teaching methods.

This article argues that in the context of a university preparation program, not only should support for international students be provided in terms of the development of English language, but also that this support should be integrated within the chosen discipline and based on collaboration with content specialists. The research question that is asked, then is:

Does the introduction of a discipline-based reading program into an existing university preparation course result in an improvement in international students' learning in the discipline and increase their proficiency in the English language?

Institutional Context

The Learning Context

In Australia, it has been common practice for international students to sit the IELTS (International English Language Testing System) examination or similar in order to qualify for entry into most tertiary degree programs. At the University of Canberra, the IELTS score usually required for entrance into most undergraduate programs is a minimum of 6.5. However, the University of Canberra College (UC College), the context in which this project is placed, offers a pathway into the University of Canberra for students with a minimum of 5.5 on the IELTS test or equivalent. UC College was initially established to provide students with a range of professional

programs of study that prepare them for entry to the University of Canberra. UC College is located on the University of Canberra campus and students are part of the

University community, with access to all the facilities and services. However, because international students who enter UC through UC College do so at a lower level of English proficiency, they are required in their first term (of a three term year) to study 6 hours of English per week in conjunction with three other university mainstream subjects, which are credited towards their degree. On successful completion of this preparation program (which includes 12 subjects over 3 terms) students proceed at undergraduate level into the second year of a degree course at UC.

Challenges for International Students

Like many other institutions, the University of Canberra has begun to address the issue of cultural diversity by introducing more inclusive classroom practices into the curriculum of content courses (Baskett, 2004; Mak, 2007). Research has been conducted into how the needs of international students can best be addressed. Two main problems have emerged as significant in understanding the factors that influence the academic success of international students in Australian institutions, namely pedagogic and cultural factors.

Another factor which can significantly affect overall academic success is the degree to which students are competent users of the English language. Feast (2002) showed a positive correlation between English language competence and performance in English speaking universities. Moreover, she also found that the current minimum IELTS university entrance score of 6.0 might not be adequate to ensure academic success in more linguistically demanding courses. Therefore, it is not surprising that Pantelides (1999) noted that the English language competence of many international and NESB students was often insufficient to meet the demands of their university programs despite having met minimum entry requirements into mainstream programs. If there is concern about the likelihood of international students being able to achieve academic success in the mainstream with a minimum entry score of 6.0, then it is even greater when compounded by a lower IELTS entry score.

International students who enter UC College with an IELTS score of 5.5, experience many of the pedagogic and cultural adjustment problems discussed above, and apart from an additional two hours of teaching per week per content subject, are required to undertake tertiary study and meet the same academic requirements as mainstream international students. Clearly, there is a strong rationale for support of a more integrated nature to be offered in one or more content subjects alongside the teaching of English.

In order to determine how a program of support could be developed, lecturers from various content courses were surveyed about the most serious difficulties faced by international students and how best to assist them with the demands of their academic subjects. By far the most common was the extent to which wide-ranging reading underpins and impinges upon almost all aspects of university study in Australia. Reading was seen as central to the subject area. Students needed to have competent reading skills so that they could understand the concepts and in turn transmit their competency in written and oral communication tasks, including the ability to fully understand the requirements of examination questions. Indeed, the need for critical reflection and evaluation of ideas and concepts in the reading was a recurring theme in the responses. Native speakers also experienced difficulty in this

area, but non-native speakers were seen to be at a particular disadvantage in comprehending the content due to the cultural implications underpinning much of the material, which most native speakers can comprehend with little difficulty. Reid, Kirkpatrick and Mulligan (1998) referred to this problem as "extra textual framing" (p. 64) and stress that it can significantly influence reading comprehension and communication.

In support of these comments, Wilson (2003) described the particular problems faced by international students in meeting the demands of tertiary reading. She points to the large volume and time-consuming nature of reading, particularly for those who have little experience of academic texts. Reid et al (1998) found that the use of technical and discipline-specific vocabulary, denser writing style, complex sentence structures and frequent acronyms compounded the linguistic difficulties faced by overseas students in academic reading, particularly in their first year. Not surprisingly, non-native speakers (NNS) of English took two or three times longer to read an academic text than did native speakers.

To overcome these reading problems, students employed various compensation strategies, which were often ineffective. The most common was to focus on recognised content words and to copy large amounts of text surrounding them (Johnson and Ngor, 1996) with little or no understanding of the meaning. Another compensation strategy was translation at word level from the first language (Reid et al, 1998). This strategy, used alone, may have the effect of breaking cohesion in the text with a consequent loss of overall meaning. It was evident that many of the compensation strategies adopted by NESB students were ineffective, insufficient and unsatisfactory to cope with the demands of tertiary reading.

Given the views expressed by content lecturers, the current problems that international students experience with reading and the fact that amongst other skills, students need to be able to attain a high level of reading proficiency to experience success in their academic studies, it was decided that we would concentrate on improving learning outcomes for students in this particular area. It was our intention that, as Pantelides (1999) pointed out, concentrating on a specific area might show improvements in other areas of academic study and this might be seen as a preface to change at a program or even school level.

Advocates of the Content-Based Model

The idea of linking language learning with content has been advocated by researchers and theorists such as Mohan, (1986), Beasley & Pearson (1999), and Barthel (2007), among others. This approach which integrates the teaching of

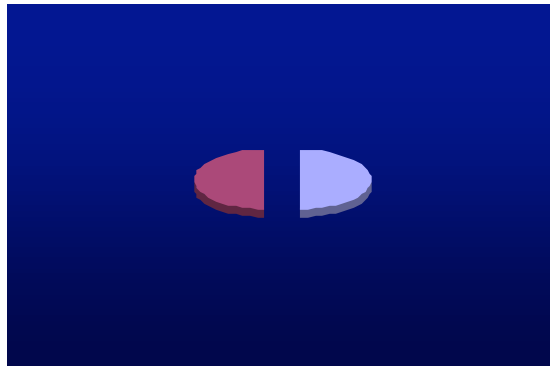
English language with discipline-specific content and is facilitated by both ESL and subject specialists, is seen as essential to support international students in their learning and development of language and tertiary study skills.

In particular, Kasper (1997) argued that content-based English as a second language (ESL) programs better meet the academic needs of ESL students and content appears to be the critical factor. Among other benefits, when content is drawn from the specific academic discipline, students focus on material presented in a meaningful and contextualised form which is immediately relevant to their needs in

the target situation; thus they are able to acquire sufficient and cumulative background knowledge in the discipline enabling them to then cope with content on a more complex level. Therefore, student performance is enhanced in both English and content courses.

In a graduate program within the UCC context, Kasper's (1995) paired content reading model was initially adopted as the basis of a discipline-based reading program. The paired reading program consisted of the use of content material drawn from the unit to develop improved reading skills. This program ran parallel with a unit incorporating discipline-based content. This meant that students undertook a two-hour weekly paired reading class where lecture readings supported the main content of the program as opposed to a generic academic reading program.

Figure 1: Paired reading model (based on Kasper 1995)



In an undergraduate program, Kasper's model was then extended and modified so that a voluntary paired reading program (see figure 1) was introduced into the unit, *Introduction to Management (ITM)*. Figure 1 shows the paired reading program ran parallel to the ITM lectures and tutorials. In comparison to Kasper's model, this program was additional to the students' formal study program, so two programs were run for the students, one being the discipline unit and the other the paired reading program that was directly related to the discipline unit's program. English and discipline teaching staff worked closely together to develop curricula and teaching methods, providing a vehicle for developing language skills and improving theoretical and applied understanding in the discipline.

Methodology

Of the methodologies available to researchers, Fraser (1997) argued that action research is the most appropriate and effective strategy for evaluating curriculum innovations. Action research has often been described as a series of steps in a cycle of planning, acting, observing and reflecting (Kemmis and McTaggart, 1981; Knobel and Lankshear, 1998). As a result, a series of discussions emanated among English language and discipline staff, which specifically resulted in the development of a paired reading program into an existing postgraduate university preparation course. Although the validity and usefulness of the program was not formally assessed, over a period of 12 months the reading program ran successfully with positive feedback (collected using questionnaires) from both staff and students. This approach was also

extended on a trial basis to a subject in an undergraduate university preparation course for one term and was received positively by students.

Due to the cyclical nature of action research, it was decided that the project would need to formally run over the duration of two cycles in order for the discipline-based reading programs to be examined effectively. In cycle 1 a cohort of international students with low English proficiency was identified, but there was no reading program implemented. However those students were given further assistance and support by the content lecturer in a 'helping class'. This cohort of Introduction to Management (ITM) students would form a comparison group for analysis with a similar cohort in cycle 2. The project used data drawn from results of written feedback from students and lecturers, in-depth interviews with students, comparison of student grades in both English and content subjects, and ongoing informal observations. Attendance at the program was voluntary. There was no requirement that students attend this program, although tutors and English teachers identified students who were 'at risk'. That is they had insufficient language skills (from IELTS scores) and/or lack of academic skills (for example, argument and essay writing) to be successful at university study

Implementation of the Program

Although the curriculum of the reading program was generally organised around content readily provided, it was important to identify appropriate strategies for teaching and learning that would aim to facilitate not only the acquisition of content but also the development of language and academic reading skills. Two main approaches were used in the delivery of the integrated reading program. Firstly, the content was organised around a number of important academic reading strategies. Top-down strategies, which encourage students to look at the whole structure of the text were incorporated into the program and typically included skimming, scanning, identifying main ideas, summary writing and discussion. Deeper analysis of the texts involved synthesising and evaluating through writing and collaboration with other students. Although the use of top-down reading strategies can be effective in assisting students to develop academic reading skills, Wilson (2003) asserted that they may be inappropriate when students need to understand dense academic text. Block (1986) suggested that a "bottom-up" approach where students work with strategies for word and sentence level comprehension may be more useful in avoiding misinterpretations which do not reflect the author's intentions. Consequently, bottom-up reading strategies was the second strategy adopted to assist students to acquire comprehension of the content, particularly when top-down strategies did not compensate for students' lack of understanding. The paired reading program did not focus specifically on either content or strategy learning. Rather, it used content material to develop improved academic reading skills

Results & Analysis

In assessing the success of the program (semester 2/2003 and 1/2004), a number of strategies were used to determine whether *the introduction of a discipline-based reading program into an existing university preparation course would result in an improvement in international students' learning in the discipline and increase proficiency in the English language.*

Survey Data

The data was collected via student evaluations, which had been trialled in earlier graduate reading programs. Evaluations were conducted in the middle and end of cycle 2 (Semester 1/2004). 14 questionnaires were completed by students who regularly attended the reading support class, giving a response rate of 100% of those who commenced and completed the program. This was done in the last week of class. There were no responses from students who dropped out of the program in the first few weeks. Students were asked to evaluate the overall usefulness of the discipline-based reading program using a rating scale and open-ended questions.

A. Rating scale

On the rating scale, students were asked to rate on a one to three scale a number of statements concerning the following aspects of the course: use and application of strategies for reading academic texts, understanding of content, preparation for tutorials, usefulness of tasks, assistance with assessment in the discipline and improved confidence (see Table 1).

The ratings reveal that students were generally satisfied with the reading program scoring various aspects at the high end of the scale although they felt that additional support might be needed in some areas. The aspect of the reading program that students particularly valued (100%) was the assistance it offered in preparing them for class work so that they were able to participate more effectively in tutorials and workshops. Many students (92%) also found that they had gained valuable strategies for reading academic texts, which had in turn improved their understanding of discipline-specific content. Interestingly, although most students (77%) felt that they now had more confidence in their ability to manage their course readings, 38% of students believed that they could not transfer or apply the reading strategies to other readings in the same subject area. This may explain the reason why a number of students (15%) felt that insufficient assistance was provided in helping them to deal with the assessment requirements of their discipline, where reading played a major role. Even though it was hoped that better understanding of content might lead to enhanced performance in the discipline, the aim of the reading program was not to specifically provide assistance with assignments. However, as informal observations revealed, students seemed to be struggling with the assessment requirements of their content course and requested further assistance. At these times, apart from liaising and communicating student difficulties with discipline staff, where possible, some assistance with understanding assignment tasks was offered. This suggests that additional support with assessment may be needed in future discipline-based reading programs.

Table 1: Results of rating scale

Student perceptions of the reading program	Agree %	Neutral %	Disagree %
1. I have gained knowledge and practice in the strategies for reading effectively and efficiently	92	8	-
2. I have understood the course content better.	92	8	-
3. The preparation for these readings helped me to participate in tutorials and workshops more effectively.	100	-	-
4. The tasks related to the readings were useful for developing my reading skills.	69	31	-
5. I used and applied the reading strategies to other readings in ITM.	62	38	
6. The reading support group helped me to deal with the assessment requirements of my subject area, such as assignments, essays, presentations and tests.	69	15	15
7. I felt more confident in my ability to deal with the ITM readings during the trimester.	77	15	8

B. Open-ended questions

The second component of the questionnaire required students to respond to three open-ended questions concerning the usefulness of the reading program, areas for improvement and whether students would be in favour of the continuation and possible extension of the reading program into other disciplines at UC College.

i. Usefulness of the reading program

All students commented positively on the usefulness of the reading program. By far, the most valuable aspect was the acquisition and use of appropriate academic reading strategies to facilitate understanding of the content in the discipline. Many students explained that the varied approaches used in reading helped them to better understand main ideas, deal with unfamiliar vocabulary more effectively, and improve their comprehension of management theories and concepts in the discipline.

Moreover, many students perceived that they had increased their knowledge of the subject area since the introduction of the reading program. As noted in the rating scale responses, many students also appreciated the support provided in understanding class work so that they were better prepared for participation in tutorials. Six students believed that they could both prepare for and contribute more effectively to discussions and four students remarked that the reading program had increased their self-confidence.

Finally, a number of students felt that the reading program had had an impact on their ability to meet the requirements of their assignments. The reasons for this were varied. Some students explained that the program had helped them to understand and complete their assignments more effectively, while others believed that more

precise understanding of management theories assisted them to write better assignments.

i. Areas for improvement

When students were asked to comment on the least useful aspects of the reading program and how it could be improved, there were relatively few negative comments and suggestions for improvement. As noted in the rating responses, three students specifically addressed the issue of further assistance needed with assignments. Two students explained that more time should be spent on understanding the requirements of the assignment task and one student requested help in writing the assignment. This could reflect the low level of English proficiency of some of the students in the reading program.

Given that there was barely sufficient time to cover the lecture readings in a one-hour session, the inclusion of additional readings from other subjects would be fairly difficult to achieve. Although somewhat unrealistic in the current context of the research, the wish of some students to have additional reading classes should be noted.

i. Continuation of the program

The final part of the questionnaire asked students to comment on whether they would like to see the reading program continue. Although one student did not comment on this question, the majority of respondents (92%) endorsed the continuation of the program. The most common reason for this was that

“[i]t helps students to really understand what the meaning of the subject is...especially in subjects which require a lot of reading”

and students hoped that

“this class can continue as long as possible.”

Another student remarked that his success in the subject was directly related to the incorporation of the reading program with the following comment,

“If our lecturer didn't offer this class to me, I might [not] understand ITM”.

Finally, about half the students recommended that this kind of reading support program should be offered in other subjects. Overall, students strongly endorsed the discipline-based reading program and appeared to want more.

Survey Data - Cycle 1 (A Comparison Cohort for Cycle 2)

The above findings are supported by comments from an ITM focus group conducted at the end of cycle 1 (semester 2/2003) with students who did not participate in a discipline-based reading program. During this term a group of 8 students with poor English skills attended an ITM "helping class". This is where the discipline teacher provided an informal atmosphere where the theories of the lecture could be discussed more slowly and explained in more detail. A focus group was attended by four of the students and explored the benefits of this "helping class".

Given the distinct nature of each support program, a direct comparison cannot be made; however, some of the findings were similar. Firstly, students believed that the class helped them to better understand concepts presented in the lectures and

the small group nature of the class facilitated this process. Secondly, they felt that the key to succeeding or passing the subject was preparation before class. As evidenced by student comments in cycle 2, the reading program fulfilled these criteria well. Finally, they appreciated the support being given, but they added that support needed to be targeted to specific student needs, such as assistance in writing assignments, preparing for examinations or understanding subject content. All felt that they needed to improve and develop their spoken and written English skills.

This analysis highlights two important findings:

- Giving students writing practice with the use of formal drafts was seen as crucial in the preparation of assignments.
- Writing in examination conditions probably represents the most difficult task for students with poor English skills because of the gap between understanding concepts in the mind and then being able to explain and apply them in writing.

Assessment Data

Assessment data was also collected to answer the dual research question:

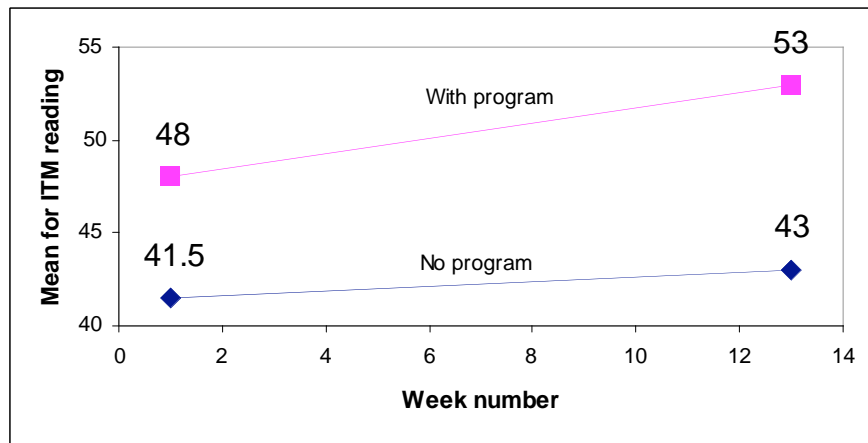
Does the introduction of a discipline-based reading program into an existing university preparation course improve international students' learning both in the discipline and in their English Language?

Whilst the initial project focused on the collection of data from two small cohorts of ITM students (cycle 1, 8 students without an integrated reading program, and cycle 2, 10 students with an integrated reading program), pass/fail rates from integrated reading programs conducted at UCC over a five year period have also been included (see table 6).

A. Improvement in English Language

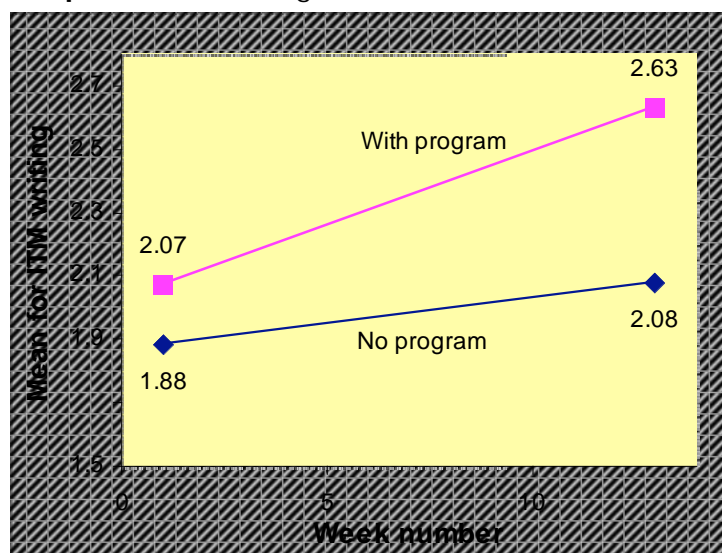
i. Comparison of reading test data from ITM cohorts with and without the reading program.

For cycle 1, the 8 students with no reading program had a mean mark of 41.5% at week 1 and 43.0% at week 13. For cycle 2, 7 students with the reading program had a mean mark of 48.0 at week 1 and 53.0 at week 13. The mean increase of 5.0 percentage points for the students with the reading program was higher than the mean increase of 1.5 percentage points for the students with no reading program, but this difference was not statistically significant. Graph 1 shows the mean ITM reading score for the cohorts with and without the program.

Graph 1: ITM reading scores

ii. Comparison of writing test data from ITM cohorts with and without the reading program.

For cycle 1, the 8 students with no reading program had a mean score of 1.88 at week 1 and 2.08 at week 13. For cycle 2, 9 students with the reading program had a mean score of 2.07 at week 1 and 2.63 at week 13. The mean increase of 0.56 for the students with the reading program was significantly higher than the mean increase of 0.20 for the students with no reading program. Graph 2 shows the mean ITM writing scores for the cohorts with and without the program.

Graph 2: ITM writing scores

The data above, together with the previous qualitative data (from students and teaching staff) suggests that reading and writing improvements were greater for students with the reading program.

iii. Comparison of reading improvement rates with pass/fail grades from a cohort with and without the reading program.

In cycle 2, of 7 students who regularly attended the reading program, 5 improved their reading score and two remained the same. Of the 5 that improved, 4 students passed ITM, and one failed. Of the two whose scores remained the same, 1 passed and 1 failed. In cycle 1, four out of seven students improved their reading score. Out of the 4 who improved, 3 passed ITM. Out of the 3 who decreased their reading score, 2 failed ITM.

Table 2: Comparison of reading improvement rates with ITM pass/fail in cycle 2

ITM RESULT	Reading improvement	No reading improvement	TOTAL
PASS	4 (75%)	1 (50%) (Student G)	5
FAIL	1 (25%) (Student E)	1 (50%), (Student F)	2
Total	5 (100%)	2 (100%)	7

Table 3: Comparison of Reading improvement rates with ITM pass/fail in cycle 1

ITM RESULT	Reading improvement	No reading improvement	TOTAL
PASS	4 (100%)	1 (25%)	5
FAIL	0 (0%)	3 (75%)	3
Total	4 (100%)	4 (100%)	8

For the 7 students with a reading program (cycle 2), those who improved their reading (4/5) passed ITM and those who didn't improve (2/2) failed ITM. For the 7 students without a reading program (cycle 1), those who improved their reading (4/5) passed ITM and those who didn't improve their reading (3/3) also failed ITM. When comparing ITM pass/fail rates, although we cannot say that more students improved their reading and passed ITM with the reading program than without the program, it seems that improved reading tends to lead to pass grades.

B. Improvement in discipline

i. Comparison of total examination mark from cohorts with and without the reading program.

Table 4: ITM EXAMINATION results with and without reading program.

Program	Pass examination	Fail examination	TOTAL
Reading program (cycle 2)	6 (66.6%)	3 (33.3%)	9
No reading program (cycle 1)	4 (50%)	4 (50%)	8
TOTAL	10	7	17

Whilst statistically insignificant, the data is suggestive of the ITM examination results being a good indicator of benefits of the reading program.

ii. Comparison of student attendance and final ITM grades

Table 5: Student attendance at the reading class in cycle 2 compared to final grades

Student	Percentage attendance	Final grade
A	91%	60.8%
B	91%	57.25%
C	91%	55%
D	82%	61.2%
E	82%	42.8%
F	72%	42.5%
G	55%	53.8%
H	36%	54.5%
I	18%	41%
J	10%	34%

It can be seen from table 5 that seven out of a cohort of 10 students attended regularly. Three other students dropped out. Of the regular attendees, 5/7 or 72% passed ITM. Out of the three who dropped out, 66% or 2/3 failed ITM. The vast majority of those who attended the classes did pass the subject; those that failed were mostly those who dropped out of the program after it had begun. Interestingly, the most regular attendees in the reading program obtained the highest grades.

C. General findings from cycle 1 and 2

Students who improved their reading and writing generally passed the subjects and those who did not improve generally failed. From the reading cohort, 5 people who improved their assignment mark passed the subject. Of the four people who decreased their assignment mark, three failed. One student improved his assignment but failed the subject because he didn't attend the examination. Students with higher reading and writing assessments generally had higher final subject assessment marks. Therefore, there seems to be a correlation between an ability to write answers in an examination and pass subjects and being able to read. The students whose reading competence remained low were most at risk. If reading scores did not improve, then writing at the university standard required would most likely remain problematic.

D. Comparison of pass/fail rates from many cohorts with and without the program

Table 6: ITM Comparison of PASS & FAIL rates from terms 2/2002 to 3/2007 (Kennelly & Maldoni 2007 and unpublished data from Wheeley and Maldoni 2007 & 2008)

Program	FAIL	PASS	TOTAL
No reading program	20 (36%)	35 (64%)	55 (100%)
Reading program	6 (11%)	45 (89%)	53 (100%)
TOTAL	21 (20%)	65 (80%)	108 (100%)

These figures (which represent about 40% of the students enrolled in UCC ITM and with the opportunity of enrolling in the reading program) suggest that attendance at the reading program enhanced a student's prospects of passing the unit.

The assessment data from cycle one and two when seen in the light of the data above (the program has now been running for 5 years) supports the assertion that *the integrated reading program improves ITM students' learning in the discipline*. That is 9 out of 10 students who attended the reading program passed the unit. More than a third of students who did not attend the reading program failed the unit.

However an interesting observation is that a significant number of students continued to pass the unit without having attended the reading program. The reason for this could be due to self selection; that is they do not participate in the reading program because they may perceive that their reading and language skills are capable of producing the standard of assessment required.

Summary of Findings

This teaching project brought a triangulation of data to bare on the dual research question, namely *whether the introduction of a discipline-based reading program into an existing university preparation course would improve international students' learning both in the discipline and in their English language?*

In answering the research questions, the paired reading model (page 5) (developed from Kasper's 1995 model) provided a better transfer of learning in the discipline and English for students over time.

The data was gathered from students, English teachers and discipline lecturers and compared to specific before and after reading and writing tests and assessment grades. Though the numbers of students in the initial project were small, assessment and survey data support the view that the integrated reading programs did improve students' learning in English. Statistics collected over a period of five years (see table 6) demonstrate a positive relationship between paired reading programs and improved students learning in the discipline.

Students reported that the most valuable aspect was the acquisition and use of appropriate academic reading strategies to facilitate understanding of the content of the discipline. Furthermore students were more confident in their reading ability, which positively influenced their confidence in other areas, such as tutorial participation and presentations.

Another significant benefit for English teachers and discipline lecturers was the collaboration across disciplines in the context of an action research model. As attested by Beckenham and Wilson (2002), "The element of staff collaboration and the action research model of the project provided a stimulating, thought-provoking and productive environment for us as teachers to extend and improve our teaching strategies" (P.24) and the learning outcomes for our students. When staff collaboration occurs, both the discipline lecturers and English teachers benefit in the following ways:

- Mutual support and the insights afforded to each other help to clarify teaching objectives and methods, and to lessen the burden of 'working in the dark' with our students.
- Discipline lecturers learn more about the particular limitations and language needs of international students.
- English teachers gain a better idea of the demands on their students from their disciplines areas and how best to be of assistance.

Moreover, the fact that English language staff and subject specialists jointly design curricula significantly enhances the development of language and academic study skills for students. According to Benesch (1992), "Rather than remain isolated from the academic mainstream or acting as a tutoring service, [English language teachers] can bring a critical and informed perspective to [university] teaching practices by collaborating as equal partners with other faculty members" (p.8).

An unintended, but important finding from this project is the level of English competency required for different types of assessment. At one level students can develop an understanding of a particular concept or theory and its application in their mind. That is they are confident they know about the concept or theory and may be able to explain it verbally. However, that is quite different to explaining and applying that in writing, especially under examination conditions. Writing in examination conditions is very difficult for students with poor skills of being able to conceptualise in English. Therefore, it was considered that the program under discussion could not assist students without an appropriate level of English competency.

Recommendations and Further Research

The findings, teaching strategies and collaboration models developed during the project were disseminated through a number of seminars at the University, in which comments were sought from other teaching staff. Comments were positive about the support that the University was giving to these students, and interest was given to an extension of the program into other subject areas.

In relation to ongoing paired reading programs at the University of Canberra College, the following general recommendations are made for future programs:

- The collaboration would be further enhanced by the occasional presence of the English language teacher in tutorials. For example, the English teacher could assist in monitoring and evaluating student progress more fully. In this way, the joint teaching/learning situation would provide insights into the students' performance and understandings and be a valuable adjunct to the current reading program undertaken.
- The authors noted the difficulty in the provision of a voluntary paired reading programs for ITM students and considered whether the reading class should be available for credit. For instance, a weighted assessment component could be attached to the participation section of the discipline subject or alternatively, the reading program could be incorporated into the discipline.

In relation to the University, the following recommendations are made:

- The paired reading program should be extended to other first year subjects with the English teacher being present within the Faculty of Management. Bretag (2001) affirms that "...integrated, content-based ESL courses, taught by appropriately qualified language specialists, working within faculties, is a highly effective model" and could be extended into other first year university units.
- One of the observations made at the conclusion of the project was the question of whether one term of teaching is sufficient to effectively allow the transfer of reading skills into the discipline. Accordingly, it is recommended that a longitudinal study of UCC ITM student cohorts be conducted, testing their English competence at 2nd and 3rd years. This is to establish the longer-term effects of paired reading programs and a benchmark to use when comparing graduating students to the ideal characteristics of the university graduate.

The results of this project clearly suggest that the current university foundation framework can be significantly enhanced with the addition of discipline-based reading programs. Among the many benefits already outlined, paired reading programs can assist students to understand discipline content more effectively, better prepare them for the demands of academic study and ultimately, provide students with the linguistic and academic tools necessary to succeed in their university courses.

To ensure the viability of future programs, above all, the university needs to recognise that alongside the teaching of English, the paired reading model, which incorporates the teaching of language with discipline-specific content, be considered an indispensable part of the international student's program of study.

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