

Student perceptions of embedded writing programs taught by disciplinary academics

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Support for developing writing within a disciplinary context has led to widespread embedding of academic literacy in the curriculum. Yet when embedding does take place it is often left to delivery from writing specialists working collaboratively with the discipline academic. Despite the widely held opinion that it is “the tutor’s role as expert speaker of a specialized discourse” (Northedge, 2003) to give students access to that discourse, programs that embed writing practices into academic content teaching taught by *disciplinary academics* remain largely under-researched. This paper explores student perceptions of three different embedded writing programs taught by tutors who had attended professional development sessions with ALL staff. The paper briefly outlines the three different programs and presents the results of surveys of and interviews with students who participated in embedded writing programs of different class size, intensity and epistemological content. One of the key issues arising from students’ responses relates to tutors’ academic identity, in particular whether the disciplinary staff saw themselves as able and willing to deliver the program.

Key Words: embedded writing; disciplinary writing; academic writing.

1. Introduction

The need for language and academic literacy development to be taught within the disciplinary contexts of university courses is widely established. The view that learning to write in an academic discipline is not “a purely linguistic matter that can be fixed outside the discipline, but involves an understanding of how knowledge in the discipline is presented, debated and constructed” (Wingate & Tibble, 2011, p. 1) is widely held. “Push” factors (a term from Frohman, 2012) for institution-wide adoption of language and academic literacy development include the Good Practice Principles (DEEWR 2009), the First Year Experience (FYE) literature, and the Tertiary Education Quality and Standards Agency (TEQSA) requirements for university audits. The government bodies and FYE literature see development of English language as the “ability to organise language to carry out a variety of communication tasks” and advise opportunities to enhance communication skills be made available to *all* students. Programs to meet these requirements are commonly designed by academic language and learning (ALL) staff in conjunction with disciplinary academics and increasingly embedded in mainstream subjects. The notion that all students, whether first or second language speakers, mature age or school leavers, are *novices* in the academic context underpins the benefit of such an approach (Wingate & Tibble, 2011).

An interesting question was raised at the recent International Education Association of Australia Symposium, February 2013. As the view that embedding academic language and literacy programs in mainstream university subjects is most desirable was being put forward, a representative from TEQSA asked the question, “*How do you know that all students will want these programs in their subjects?*” This is a question that must be considered by ALL staff who traditionally focus program design on students needing language development. Some students enter university with very high literacy levels, expecting that their university courses will give them *content* knowledge, but require them to develop their own writing and analytical skills as part of tertiary learning and may not need or even see the need for academic writing support. The research presented in this paper offers an answer to this question although this was not the original research objective. The paper outlines a process by which embedded writing programs evolved from a lecture style low intensity focus to an interactive high intensity epistemological focus that was accepted by all students. It explores the reaction of undergraduate students to three different embedded writing programs taught by disciplinary academics within a first-year Economics class at a large metropolitan university in Sydney.

2. Embedded approaches

There are many documented accounts of embedding of academic language and literacy development, mainly reporting on programs taught by academic language and learning (ALL) staff in collaboration with disciplinary academics (recently, Dunworth & Briguglio, 2010; Thies, 2010; Harris & Ashton, 2011; Frohman, 2012). These programs on the whole succeed in their aims. However, this approach is underpinned by the common belief that ALL staff, who rarely have a “matching disciplinary background” (Mitchell & Everson, 2006 p. 69), should be responsible for developing writing within a subject. In this way, responsibility for inducting students into academic writing is transferred from subject tutors who design and manage assessment regimes, to “agents” outside the discipline (Wingate, 2006). There is tacit acceptance in institutions that it is the writing specialist who is responsible for the teaching of writing while disciplinary academics rarely explain how content knowledge is expressed through interweaving the knowledge with generation and articulation of ideas (Anderson & Hounsell, 2007). Yet writing is central to learning (Monroe, 2003), and teaching students to write about disciplinary knowledge can “no longer be reasonably believed to be the sole province of academic support staff” (Clarence, 2012, p. 136).

There is an increasing body of research that supports the view that teaching writing should be part of the responsibility of disciplinary academics (Gee, 1996; Monroe, 2003; Jacobs, 2005; Mitchell & Evison, 2006; Murray, 2006; Wingate & Tibble, 2012) where it is “the teacher’s responsibility to create pedagogical situations ... exploring aspects of process in conjunction with specific concepts” (Haggis, 2006, p. 532). The reasons for this are articulated in current literature, along with suggested pedagogical approaches. For example, Wingate and Tibble (2012) contend that in a fully embedded program, writing is taught by the subject lecturer and is inclusive, discipline and context specific. When the teaching of writing is linked to teaching of subject content there is greater potential “to raise students’ awareness of the discipline’s communicative and social practices” (2012, p. 120). Disciplinary academics are in a position to ensure writing activities are situation specific. Pedagogical approaches are put forward by Northedge (2003), Wingate (2006), and Anderson and Hounsell (2007), among others. These range from Northedge’s opening up conversations and coaching students in speaking the academic discourse to Anderson and Hounsell’s designing activities to encourage students to demonstrate ways of thinking and acting appropriate to specific situations (for more detail see Hunter & Tse, 2013).

3. Challenges

Yet the idea that disciplinary academics might explore the complexities of academic practices much more explicitly with their students challenges many conventional assumptions about university teaching (Haggis, 2006). One assumption may be the perception that providing students with guidance on processes to complete a written assignment is, to borrow a term from

Haggis, “spoon feeding”. She argues exploration of the high level processes required of assessment tasks “cannot be spoon feeding – only content can be delivered by the spoonful” (2006, p 530). The processes required to craft a response to a written university assignment; researching, synthesising ideas, analysing those ideas and formulating an argument, cannot be *transmitted* as knowledge but can be, as Haggis outlines, “described, discussed, compared, modelled and practised” (p. 530) in the *construction* of knowledge.

Another challenge is that although disciplinary academics construct their own knowledge in their own writing practices, without formal frameworks or language to analyse language itself, they may have beliefs about the appropriateness of certain kinds of writing but be unable to easily articulate these beliefs (Hunter & Docherty, 2011). The tacit knowledge they have of writing practices may make it difficult for them to model appropriate disciplinary practices (Jacobs, 2005; Clarence, 2012) in both thinking and writing. For example, when a disciplinary academic expects students to present a logical argument to demonstrate causal analysis (often required in economics), he/she might not easily articulate the process of using transitional sentences to bind together the steps of logical reasoning and express the relationships between the steps that is vital to constructing an ordered pattern of thought (Hunter & Docherty, 2011). There are many documented examples of how collaboration between ALL staff and disciplinary academics can overcome this challenge and facilitate in unlocking the tacit knowledge (Gosling & Wilson, 2005; Jacobs, 2005; Evans, Tindale, Cable, & Mead, 2009; Dunworth & Briguglio, 2010; Thies, 2012; Frohman, 2012).

Another common assumption about university teaching is that writing is seen as separate from disciplinary knowledge. In UK and Australian institutions, for example, writing is still commonly seen as peripheral to subject content. Comments made a decade ago in the UK that there is no systematic well founded approach to teaching writing in UK universities (eg Lillis, 2001) are currently echoed (eg, Mitchell & Evison, 2006; Wingate & Tibble, 2011) and the fact that writing centres are largely positioned on the margins is a frequent theme in literature from Australia (e.g. Stevenson & Kokkinn, 2007; Harris & Ashton, 2011). This institutional positioning reflects the view that disciplinary knowledge is seen as separate and hierarchically dominant over knowledge of teaching and learning. Despite the expanded role of ALL staff, the perception of language and academic skills as subordinate to disciplinary knowledge still persists, mostly due to the fact that universities still define themselves in terms of research output (Channock, 2011). The premise that writing is vital in the construction of knowledge and integral to the learning students will engage in and pursue is not often explained to those who think students can acquire the complexity of skills needed to carry out academic tasks outside the subject (Wingate, 2006).

Yet the literature identifies the close and intricate connection between the *content* and *form* of knowledge, the “indivisibility of the learning of content and the discursive practices associated with that content” (Anderson & Hounsell, 2007, p. 472). Opinions that universities do not need teachers “who spout knowledge endlessly” (Northedge, 2003, p. 179) and need to accept that learning and articulating are inseparable activities (Knoblauch & Brannon, 1983) were espoused decades ago. Some initiatives have been put in place in the UK; for example, the Queen Mary College Thinking Writing project (see Mitchell & Evison, 2006); projects that aim to encourage disciplinary experts collaborating with writing specialists to take responsibility for students’ disciplinary writing (O’Neil & Harrington, 2010, London Metropolitan University); and individual programs (Wingate, Andon, & Cogo, 2010). In Australia, teaching approaches where disciplinary academics give students access to their discourse and writing is taught specifically within subject content as an “integral part of content teaching” (Haggis, 2006) for the most part remain undocumented. Some studies, for example, Hunter and Tse (2013) and San Miguel, Townsend, and Waters (2013) have been published, but few studies provide an empirical investigation into programs where thinking and writing practices are embedded into academic content teaching and taught by disciplinary academics.

4. Program design

Economics for Business, a first year first semester economics subject conducted at a large metropolitan university in Sydney, typically has high enrolments as the course is compulsory for students undertaking a Bachelor of Business and is a requisite for any further economics classes. The subject introduces preliminary economic models from a standard tertiary course, and applies these models to real world problems using case studies. Each week there is a two-hour large class lecture and one-hour small group tutorial. The assessment for the subject includes a mid-semester multiple-choice exam, a written economics report, and a final exam.

Due to concern about the standard of the written economics report, the ALL lecturer and subject coordinator collaborated to design a writing program that would be embedded in large lectures and taught by the subject coordinator. This 2011 program was designed to teach students the contextualised process of applying economics theory to enable them to use that process to complete the written assessment. The assessment task required students to apply current media issues to economic theory to develop analytical thinking. The initial low intensity lecture style writing program applied the pedagogy outlined in the literature in that it demonstrated how knowledge is constructed in the discipline, assisted students to reflect on the nature of the knowledge with which they were interacting, and suggested how they could integrate their voice with the existing literature (Wingate, 2006; Anderson & Hounsell, 2007). The 30 minute sessions were embedded in two large lecture classes (300+ students). The first session addressed the assignment question and included discussions of economic theory linked to current financial issues designed to draw students into practising specific ways of thinking about how economic models can be used to explain financial events. The second introduced the assessment criteria and explored the processes required to complete the report. The lecture style format resulted in a non-interactive program, with no opportunity for questions, dialogues or writing practice.

Students gave feedback that the 2011 program lacked opportunities for interaction and practice. Consequently, in 2012, the subject coordinator and ALL lecturer decided to design a more intensive, interactive program to be held in tutorials. Staff development sessions were held with the coordinator and all tutors in the program to develop text analysis skills to enable them to provide the teaching required. This more intensive interactive writing program was conducted in tutorials of 30 students or less. The first writing session in the tutorials included a shortened version of the large class presentation with the addition of an intensive writing session where students graded previous student examples of “good” and “bad” paragraph writing, engaged in dialogues with the tutor, worked both individually and in groups to reconstruct a poorly written paragraph on a general economics topic, and received feedback on the writing.

The second intensive tutorial (two weeks after the first) used an economics model, the hypothetico-deductive model, related to the assessment as a basis for the writing session. This tutorial involved an intense writing session around a particular methodological and epistemological approach to an economics problem (the hypothetico-deductive model). The students were given the example of a man at a bus station and asked to think about what he could find out about the likely change in value of the money he holds when he learns that the Central Bank has increased the interest rate. With no resources at hand to check, he constructs a model based on assumptions and draws upon and logically deduces an answer subject to those assumptions. The man can then tentatively hold the conclusion subject to any falsification of the assumptions. Students were asked to apply their knowledge of how to write a paragraph to providing an answer to the above scenario using the hypothetico-deductive model. Feedback in this case was given on the accuracy of the answer and how it was expressed. This illustrates Wingate and Tibble’s (2011) situation specific activity where the teaching imperative “shifts from the transmission of subject expertise to encouragement and crafting of students’ active response to the subject: their construction of knowledge” (Mitchell & Everson, 2006, p. 81).

5. Research Methodology

A survey and series of focus groups were conducted to allow students a voice to put forward their experience of the embedded programs. The survey included a Likert Scale evaluating the

usefulness of the programs and open-ended questions inviting comments. Students participating in focus groups were asked to self identify as strong or weak writers within the group (the focus groups were not divided according to this category). The focus groups were semi-structured with a core set of questions asked of all groups. While the phrasing and type of questions varied to suit both the focus groups and survey, both were designed to elicit student perception of the embedded writing programs. The questions were open ended and divergent in nature allowing for detailed responses and elaborations (Gay, Mills, & Airasian, 2006). All focus groups were recorded and transcribed.

A frequency-based approach was undertaken to identify key themes that emerged from the focus groups and cross-referenced with comments from the survey. Responses were independently coded by frequency of occurrence and responses and categories viewed iteratively until a stable analysis was reached. While it is doubtful whether separate focus groups can be compared in terms of relative strength of opinion, a comparison can be made of issues being aired (Sim, 1998).

6. Results and Discussion

The results show that students who self-identify as poorly skilled writers think that writing support should be interactive and high-intensity, but did not discriminate between the value of practice involving a general economics topic and practice with an epistemological focus involving hypothetico-deductive reasoning. The students who self-identified as highly skilled writers believed that the programs that focused only on writing skills should be abandoned altogether and not taught within the discipline. However, when the same students were presented with a writing activity involving the hypothetico-deductive model, the majority changed their opinion and felt that this type of support was in fact preferable. The findings suggest that embedded writing programs are of broader value to students if they expressly reveal the epistemological and methodological approaches for the discipline.

The main themes identified centred on the *value of the program* and perceptions of *discipline academics in the role of writing teacher*. Comments shown here were selected as being representative of the main themes.

6.1. Program 1: Lecture 2011

6.1.1. Value of the program

The survey, completed by 183 students of a 300+ cohort, indicated 65% of students who attended the large lectures found the program useful and 35% indicated a neutral response. At this stage of data collection students were not asked to identify as strong or weak writers but inferences could be made from comments made in the survey. It could be inferred that students who insisted such a program takes up time from learning economics and that they did not come to university to learn how to write were confident writers. Other students commended the program for its assistance and commented that all subjects should include such a program.

In the five focus groups with 8-10 students per group (where students were asked to identify as weak or strong writers), the program was generally supported. Typical comments were,

“A program that addresses student writing is vital. I think the program will reward the conscientious.”

“The program was helpful because it explained the marking criteria. A lot of the time, students don’t know how they will be marked.”

Students who identified as having weaker written abilities stated the course was important and helped them write their assignment.

Approximately half of the students said they would have appreciated the opportunity to ask questions, although this is not common practice in large lecture theatres. Other students stated that the course felt “rushed” and that they had had no opportunity to ask questions or clarify points. As this comment occurred in most focus groups, the facilitator used the opportunity to

ask how many students felt they understood the hypothetico-deductive model as explained in the lecture and less than half the students stated they did.

The co-ordinator who delivered the program also taught tutorials and selected random papers for an overview of the results. He reported that only 53% of students actually followed the guidelines that were explicitly given in the low-intensity course, and found this to be a disappointing result. He stated that it is likely that if students did not follow the simple guidelines provided by the embedded program, then they were unlikely to have followed the more subtle elements of the course. A sophistication of analysis was shown in 53% of the papers suggesting those students had engaged with the writing program adequately.

6.1.2. Response: Redesign of the program

The student views on the lack of opportunity for interaction during the writing program, although not identified as a key theme, *resonated with the reflections of the ALL team*. One aspect of the program that had not been taken into account was that of interaction between lecturer and student. Although both sessions demonstrated the embedded writing processes, student comments indicated that the sessions were limited in encouraging active and engaged interaction due to the large lecture setting. For example,

“I think if they explained it in the tutorial, it would make it easier, because it’s smaller groups and it allows for easier discussion. Like, in lectures, there’s 300 people, so not everyone will get to ask the same questions they would if it was in the tutorial.”

“I never asked about the assignment in the tuts – I don’t know if anybody else (in the focus group) did – but I certainly think we should have the opportunity to talk about it.”

These comments echo views in the literature on the importance of “dialogue – interaction around texts” (Lillis, 2006, p. 44) to engage students in developing epistemological knowledge and the processes involved in communicating that knowledge. The decision was made to devolve the writing program to the tutorials to encourage more interactive dialogue-friendly sessions. The change was to be effected by way of a series of workshops for tutors on the scholarship of writing and text analysis led by the writing specialist, thus introducing an extended two way dialogue between the writing specialists and the tutors, and then the tutors and the students (Murray, 2006). The workshops would enable tutors to develop their text analysis skills in order to take over delivery of the writing program. It was hoped that by tutors being able to see students “approaching particular instances of disciplinary practice”, students hearing how other students are doing it and how the tutors are doing it, opportunities for “new types of understanding” may be opened up (Haggis, 2006, p. 531).

6.2. Program 2: Tutorial 1 2012

6.2.1. Value of the program

In the first writing tutorial, 73% of surveyed students stated that the intensive session was useful, 70% stating that the subject should include such an embedded writing program. In focus groups, students who identified as having little confidence in their writing abilities gave entirely positive comments. Some students specifically stated that they wished other subjects included an embedded writing program, stating every subject has different expectations and lecturers expect them to adapt their writing to specific subjects without explaining what is required. One student said that the writing course communicated to her that “writing is not just writing; it is always a type of writing, and for a particular purpose”. Others commented,

“I found it valuable to read a bad paragraph. I saw that the writing was conflicted and contained too many ideas, and noted how difficult it was to read.”

“In tutorials so far, we have been looking at models but there’s nothing in these classes about writing. To say, go and write a business report is a bit

unfair because it doesn't fit in with what they are teaching. So a program that tells us exactly what the lecturers expect is needed."

Most students said they felt the interactive nature of the writing session aided their understanding of the course substantially. Approximately 20% of students suggested that the subject matter of the program should be "learnt by doing". When asked if a dialogue is important in these sessions, most students said yes. Students who identified as having lower confidence in their written abilities, stated they needed to ask questions in order to understand the content adequately.

However, from the focus group, students who identified as being confident in their written abilities, the results were alarmingly negative. These students stated that they found the close examination of criteria as "obvious"; some even went so far as to call it "patronising". These same students said that the course came at the expense of in class practice for the final exam. Generally, these more confident students did not think that an embedded writing program was the appropriate response for students who identified as having poor writing skills. Nor did they find the writing program useful. Several of these students also stated that the specific guidelines only led to more homogeneous output: "the course takes away any possibility of unique, original approaches", one student stated. Another comment was that the course gave licence to the markers to "punish students for not following instructions, instead of marking on understanding and creativity". These students also said that the course gave "too much help". They had the view that students are expected, at university, to not only read the criteria closely, but also "proofread and refine their work". At this stage, the interviewer stated that this was a common criticism of embedded writing programs. The facilitator cited Wingate's (2006) point that although some critics believe embedded writing programs would spoon-feed students, in fact the students are learning the processes required to complete a written assessment. In response the students stated that students are "only required to follow instructions and will be marked heavily down if they do not". The embedded writing program, the students stated, did not require "deeper thinking or commitment to the economics paper", but only to "structure our paper like an economics report and to check our work as we write".

6.2.2. Disciplinary specialists and writing

Due to timetabling constraints, focus groups were formed from specific tutorials. This affected students' views of the teaching of the tutors regarding ability or willingness to teach the writing program. Some groups commented that the tutor seemed to be uneasy and "out of his depth", "clumsy" and generally lacking confidence in conducting the interactive writing activities, although these students could still see the value of the sessions. Other students commented their tutor leaned heavily on the writing specialist and kept stating this is how she said it should be done, more they surmised to give himself confidence. Although both groups appreciated the efforts and gained from the interactive sessions, the apparent nervousness of the tutor in delivering the session created a feeling among the students that he would have been happier if the writing specialist had done so. Students from other tutorials had no such comments. It is interesting to note these students had been taught by younger tutors who, it could be assumed, had not had years of established teaching and were more open to the idea of articulating learning through writing.

When students identifying as weaker writers were asked if they thought that the university is doing enough to help students with their writing the answer was unanimously negative. One student said, "writing specialists do not know enough about different subjects to give advice across all the disciplines; there needs to be help from the teachers who set the question." Other students said lecturers offer little help with writing and generally refer students to the writing specialist centre.

Stronger writers had a different view. These students said "students with weaker writing skills should seek help with a writing specialist". The facilitator then explained the "student writing problem" and told the students that the criticism of student writing was widespread from teachers to employers to students themselves. The writing centre or study skills approach, the facilitator explained, was failing to address or reverse the problem. In response to these

thoughts, one student stated that this student-writing problem “will persist no matter how hard you try to reverse it”. Other comments were,

“Writing is a private and personal skill and some students will take longer to unpack the techniques.”

“Sitting in a tutorial about writing devalues the tutorial for those who turn up to learn about models, maths and other stuff that is less familiar. I’d be happier if this program was scrapped.”

The responses of the confident students to the first intensive embedded writing program were thus overwhelmingly negative, and showed a surprising similarity to advocates of the study skills approach. The interviewer asked these students whether they thought the study skills approach might marginalise students with weaker writing skills upon entering university by making them believe that they are the problem. Here the students had little to say, but one stated that they saw “no other cause in the students’ poorer abilities other than the students themselves and their education and background before entering university”. The facilitator then asked if they think the university does enough to improve student writing. Typical responses were, “Universities are not supposed to teach students how to write unless the student is actually taking a course in writing” and students learn to write by “doing the reading, attending lectures and then just having a go at it oneself”.

6.3. Program 3: Tutorial 2

Interestingly, a group of tutors who had read transcripts from the first tutorial focus groups took on board the comments that decried the lack of practice when being taught economic models from the weaker writers and those from the stronger writers who wanted to learn about models, not writing. These tutors designed a follow-on tutorial themselves, modelling it on the previous interactive writing tutorial but substituting an economics model to use as the base paragraph. Students were presented with a problem (outlined in **Program Design**) and asked to use the hypothetico-deductive model to provide the answer in a written paragraph. Thus, they would use epistemological knowledge and the methodology of the subject to teach writing. The focus group themes are reported here.

6.3.1. Value of the program

Survey results indicate the second of the two higher intensive writing classes was slightly less valued than the first, with 67% of students stating that the class was useful and 66% saying that it should be included in the teaching of the subject. This, the tutors suggested, was due to students being surprised that a second class would be devoted to the writing requirements of the economics paper, but noted that students were still engaged in spite of this. Although the class appeared to be slightly less valued than the first, students in the focus groups who identified as being less confident writers said they preferred this second class to the first. When asked for reasons for this, one student replied that this writing course actually showed “how our writing can be right or wrong”. They were then asked if they would feel more confident in their written abilities if they first discussed the way of thinking, or “truth-finding” (economics term) of the discipline, to which the unanimous response was yes.

Students who identified as more confident in their writing abilities were markedly more positive about the second intensive class than the first. The majority of these students stated that it was useful. Students who responded negatively to the first intensive embedded writing program said that this class should be included in the curriculum and should be installed in each subject. Their comments were similar to those of the weaker writers in that they appreciated knowing if their writing was right or wrong, that is, how accurate their hypothetico-deductive reasoning was. In this way, they felt the writing exercise was entirely justified. These students were asked if they think written skills exist within a discipline, or if they consider written skills a general set of skills to be applied in each discipline. Some students (astutely) pointed out that the question was a “false dichotomy”, but agreed that they had not previously seen the link between the thinking, or “truth finding” of economics and expressing that “truth” in writing.

Interestingly, neither group commented on the previous paragraph writing tutorial or how it may have helped prepare them to write this one. The more confident students were adamant that they had not wanted the previous writing tutorial but did not make the connection between that tuition and their ability to complete the second exercise.

6.3.2. *Role/responsibility disciplinary specialists teaching writing*

Students were asked if they believe that academics explicitly reveal the way of thinking in their subjects. Some students replied that they have had lecturers who have done so, but that it depends on the individual. This concurs with the views of Harris and Ashton (2011) that some disciplinary specialists are confident and “already take responsibility” for the thinking and writing skills of their students, while others see themselves as content specialists “who should not be held responsible for this area of student learning” (p. A80).

Stronger writers said that they performed such mental exercises or ways of thinking about economics without knowing it. The facilitator asked these students whether the poor written abilities of some students might be explained by missing the link between writing and thinking in the subject context and some conceded that this could be a cause, other than the students themselves. The students who had previously said that only students and their background were responsible for their writing abilities conceded contextual knowledge could also be responsible.

6.3.3. *Staff comments*

After grading the 2012 reports, the tutors reported approximately 65% of students followed the guidelines provided in the writing program, producing a “more sophisticated set of papers” than the previous year. In particular, students generally were careful about listing assumptions and expressly avoided common logical fallacies. The co-ordinator was involved in appeals of the student papers, giving him the opportunity to have a further dialogue with those students. In the large-class program, the lecturer reported numerous appeals from students who in the lecturer’s opinion had not engaged with the program. In the small class more intensive program, the coordinator reported appeals that involved “clearer conversations”, with students showing a “sophisticated understanding of the use of models in economics”.

7. Conclusion

The preceding interviews and surveys have shown a sophisticated set of responses to the elements of intensity and epistemological content in embedded writing programs. Student comments suggest that the decision to embed the program in the tutorials and present a more intense, interactive class was the right one. The smaller classes allowed for dialogue, of back and forth critical feedback about writing (Lillis, 2006; Murray, 2006) which is especially important for students with weaker writing skills.

Having interactive writing classes in tutorials communicates to students that the sessions are an important component of the course. However, the focus on writing for the assessment and on a general economics topic alienated more advanced students, who showed clear opposition to the first intensive writing program. These students put forward the view that weak students should seek support external to the discipline. It is notable that the responses of these students changed when the specific content knowledge of the discipline was revealed in the second tutorial program. Comments indicated this session gave students a “tool” (Greenlaw, 2003; Anderson & Hounsell, 2007) not only to develop writing, but to learn economics theory more effectively. What is absent in student comments, though, is whether the two-step process of paragraph writing was enabling in that the first step outlined the process of writing an academic paragraph before they were asked to solve a specific economics problem in the second.

Another important outcome of the program has been raising awareness of subject teachers that students need to acquire not only content knowledge, but also the *processes* by which that knowledge can be expressed (Haggis, 2006). That the tutors independently devised a more embedded exercise (problem solving) to consolidate the first paragraph writing session showed their view that the close and intricate connection between the content and form of knowledge

enhances epistemological knowledge. Not all tutors had the confidence to do this, however. Perhaps the next writing program could combine the two-step process and implement a high intensity epistemological writing session without alienating advanced writers. This would require commitment from the disciplinary specialists and importantly, a confidence in their ability to teach the session. It is hoped this study has raised the issue of degrees of intensity in embedded writing programs and that a mainstream approach to suit all students is possible.

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