

**Dialogic learning in tutorial talk:
a case study of semiotic mediation
as a learning resource for second language
international students**

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Spoken Data (compact disc)

Abstract

This thesis is a case study of dialogic learning in a university context as demonstrated in *tutorial talk*. The aim of the study is to examine the effectiveness or otherwise of dialogic learning as applied in an economics curriculum. More specifically, the thesis examines the learning experiences of a second language international student cohort as they attempted to understand the role of prediction and causality in economic principles and theories through spoken dialogue. This approach means interpreting the students' learning as a semiotic process and the students' cognitive development as shaped by their language in use. The theoretical framework for this examination is offered by the analytical resources of systemic functional linguistics, as developed by M.A.K. Halliday (from 1975 to 2004) combined with frameworks for mediated learning offered by Vygotsky (1986, 1987); Bakhtin (1986); Hasan (from 1985a to 2001); Bernstein (from 1971 to 2001) and Cloran (from 1994 to 2006 draft); and more recent research in 'scaffolded learning'. The study applies these resources to analyse significant rhetorical functions of economic discourse, such as predictive reasoning and argumentation, and to examine how these were negotiated and mediated by the students and their lecturer.

The method for analysing negotiation and mediation in these students' learning draws on Rhetorical Unit (RU) analysis as devised by Cloran. Linguistically, the analysis takes account of categories and relations between the Rhetorical Units on the basis that these are able to provide theoretical explanations for the predictive reasoning construed in the interactions. The analysis of Rhetorical Units primarily involved the identification of relations between the basic constituent of the text, ie, the message, and how these relations constructed the units of rhetorical meaning in the discussion. The advantage of adopting this approach is the possibility of realising rhetorical activities as an abstraction at the semantic stratum, and, as such, how they were realised by lexicogrammatical phenomena. The analysis examined: first, the use of Rhetorical Units by the lecturer and students in their construal of the critical pedagogic discourses identified by Bernstein, being the regulative and the instructional; and second, the adjustments and shifts to more congruent explanations as a result of contingency

strategies taken by both the lecturer and students in response to the students' difficulties.

The findings throw a different light onto dialogic learning in a new social constructivist pedagogical approach in a university context. The study reveals that while the students' learning was a highly collaborative dialectical process, any transformations in understanding were not at all neatly incremental as described in the literature. Indeed, the negotiations were highly 'peripatetic'; any increments in understanding were overall *devolutionary*. While the lecturer's initial guidance reflected the monologic discourse of written economics, her responses became more congruent and reactive. It was shown that a key predictor of these contingency strategies was the kinds of meanings sought by the students' extensive questioning. Hence, in this case study, the contingency strategies undertaken within the interactional dynamic reveal a different view of semiotic mediation, necessarily a process of semiotic *remediation*.

Declaration

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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Chapter 1

Dialogic learning in a university economics curriculum: a case study involving second language international students

Purpose and aim of the study

This thesis is a study of dialogic learning as demonstrated in ‘tutorial talk’. In recent years, increasing interest in dialogic learning as demonstrated in ‘classroom talk’ and ‘scaffolded’ or guided learning has taken place in primary, secondary and second language classrooms (Woods, Bruner and Ross, 1976; Hammond, 1995; Christie, 1989, 1998; Gibbons, 1998, 1999; O’Halloran, 1999, 2000, 2003, 2005; Wells, 1981, 1986, 1997, 2001; Wells and Claxton, 2002; Mohan and Gulbahar, 2003; Cazden, 1972, 1988; van Lier, 1989, 1996; Maybin, 1994; Maybin, Mercer, and Stierer, 1992; Mercer, 1995; Swain, 2000; Lantolf, 2000; and Royce, 2002). In these classrooms, the continuum between spoken-written discourse often provides the foundation for curricula and specific learning-teaching activities, unlike traditional university education. It will be argued here that for many university students, indeed for many students generally, the conceptual journey involves quite different interactions and negotiations from those described in the literature on classroom talk. The purpose of this study is to examine these claims and the ‘dialogic challenges’ facing second language international students at an Australian university as they attempted to understand highly theoretical meanings of academic economics – meanings construed most typically in writing requiring high levels of theoretical knowledge.

The application of dialogic learning in educational curricula acknowledges that the way we learn and develop our conceptual thinking is most effective in discussion with others: it both creates and mediates our ideas. A central argument in support of dialogic learning contends that our understanding of educational meanings is not readily accessible other than through negotiation and mediation with our teachers and peers. As Vygotsky (1986:94) argued many years ago, all higher mental functions are at first external before they are part of the individual’s inner make-up. The significance of

semiotic mediation and guidance is the difference between understanding complex meanings alone and the level we can reach in negotiating meanings with others. In this view, the fundamental tool for learning is considered to be language. Our cognitive development is shaped by our language in use. Language has the power of construing our experiences through meaning, as Hasan (2004:159-160) argues, and so plays a crucial role in the formation of our consciousness. Thus, the view of language on which this thesis is based sees language as constructing meaning.

Despite differing theoretical frameworks, the common finding in the literature, relevant to this study, is the success of dialogue for learners in their negotiation and understanding of meanings construed in educational discourses. Whether in teacher guided interactions or in more recent research on mediation between students as peers, dialogic learning is described as a critical resource for learning, particularly for second language international students whose experiences are outside the main social and cultural contexts. Yet, dialogic learning is not a methodology given much prominence in traditional university education, at least not with the same described goals.

The specific aim of this thesis, then, is to examine the effectiveness or otherwise of dialogic learning and semiotic mediation as applied in a university curriculum. The interpretation of dialogic learning and semiotic mediation in this study adopts Hasan's (1996:152) concept that it is language use that construes the deep meaning of human interaction. The rationale for undertaking an innovative approach in an otherwise traditional university degree program was to ensure the academic success of an increasingly important student cohort in Australian university education, second language international students. The research is undertaken as a case study. In order to have theoretical validity, the study uses a functional linguistic theory to analyse the tutorial interactions. The particular linguistic theory is the multi-functional and multi-stratal systemic-functional model, as proposed by Michael Halliday over the past four decades.

Although much has been written about the participation of second language international students in Australian university education in relation to their academic writing and from inter-cultural perspectives, there have been no in-depth examinations of actual learning experiences of this cohort involving spoken interactions from a

linguistic perspective. Thus the study will attempt an in-depth ‘arthroscopic’ investigation of the semiotic mediation between the students and their lecturer as they negotiate the meaning of a theoretical model in economics.

Scope of the study

The thesis lies within a social rather than a psychological orientation towards tertiary education. The study proceeds from the proposition that any confusions the students experienced are due to a lack of assumed background understanding of discipline theory. The view taken in the study is that these experiences are shared by many students, but made more difficult for students whose academic as well as personal experiences are outside the main educational context.

The justification to proceed with a case study is well supported in educational literature. Case studies are acknowledged as providing unique insights into educational practice. Indeed, in advocating the use of such intensive studies, Bassey (1981:86) implores researchers in education to use single events to critically examine pedagogic practice rather than relying on generalisations,

... pedagogic research should eschew the pursuit of generalisations, unless their potential usefulness is apparent, and instead should actively encourage the descriptive and evaluative study of single pedagogic events. In this way pedagogic research will contribute effectively to the improvement of pedagogic practice.

Heeding Bassey’s advice, this study does not attempt to pursue generalisations to predict, say, how professional economists may construct specific theoretical meanings. Rather, the linguistic analysis undertaken here is concerned with the discourse of educational economics as used in this learning situation. It is worth noting, however, that any distinctions between educational and professional economic discourse were difficult to discern in a deal of the literature, particularly from my perspective as a non-economist. The major distinctions appear to relate to the attempts in some economics curricula to apply complex economic principles, theories and models, such as equilibrium and demand and supply theory to real world data, and conversely, to see

what the empirical data say about the possible validity of the theory and models. It was these applications that were the focus of the economics curriculum under investigation here. Indeed, difficulties in realising any distinctions between economics as undertaken in professional contexts and how economics is taught in the classroom, particularly as a service subject for business students, is the focus of much discussion in recent literature. This discussion in the literature will be reviewed in Chapter 3 (see *Revisions to economics curricula in undergraduate degree programs*).

Dialogic learning as innovative pedagogical practice: some theoretical issues

The investigation will draw on the influences of Vygotsky as interpreted in the application of semiotic mediation, Hallidayan systemic functional linguistic (sfl) theory, and Bernstein's theory of pedagogic discourse. The analysis draws on sfl theory as applied by Hasan (1983, 1984, 1985a, 1986a, 1986b, 1989, 1991, 1992a, 1992b, 1996, 1999a, 2001); Hasan and Cloran (1990); and Cloran (1994, 1995, 1999a, 1999b, 2006 draft). Although Vygotsky's framework is essentially pre-theoretical, several studies examining the complementarity between his work and student learning in contemporary classrooms, using the resources of systemic functional linguistics, have been undertaken in the past two decades (Christie, 1989; 1998; Hammond, 1995; Gibbons, 1998, 1999; O'Halloran, 1999, 2000, 2003, 2005; Royce, 2002). As noted, these studies have taken place in primary, secondary and second language classrooms. The curricula for these studies lie within a neo-Vygotskian social constructivist view of learning. In such a view, language is considered a fundamental tool for the creation of meaning. From this perspective, learning is not based on instinct or on pre-programmed communicative devices but on socially sensitive exchanges of meaning.

By adapting a social constructivist approach, the application of dialogic learning in the curriculum examined here was underpinned by the notion that our primary commonsense knowledge is construed in spoken language, whereas our secondary educational knowledge is construed in a dialectic between spoken and written discourse. As Halliday (1990:11) explains,

...educational knowledge is not constructed solely out of written language. Whereas our primary, commonsense knowledge is—in this respect—homoglossic, in that it is construed solely out of clausal grammar of the spoken language, our secondary, educational knowledge is heteroglossic: it is construed out of the dialectic between the spoken and the written ... This means that in at least some social practices where meanings are made in writing, including educational ones, the discourse will actively participate in an ideological construction which is in principle contradictory to that derived from everyday experience.

However, learning for many university students is rarely acknowledged as such a dialectic. Learning for many university students continues to be dominated by objectivist approaches, referred to also as the transmission approach. The primary focus, within such an approach, rests on the transmission of written theoretical knowledge. Students' engagement with this knowledge is to replicate what is. Their use of language is considered to be no more than a device or conduit to express their memorisation of pre-existing facts. The role of language and the concept of meaning, within objectivist approaches, is described by Hasan & Fries (p.xiv) as one of 'correspondence'. Language and any concept of meaning is considered to be outside linguistics and therefore perceived to correspond to pre-existing reality, ie, as a mirror to language-independent realities.

An unintended outcome of objectivist approaches in mass education is the frequent need for students, particularly those new to university or with different educational experiences, to engage in a form of 'ventriloquism' or parroting of information. The spectre of 'ventriloquism' manifested as plagiarism – more recently referred to as 'violations of academic integrity' - brings into focus the extent that background and educational knowledge in written texts and visual and symbolic images is frequently taken for granted; what is perfectly apparent to the lecturer as discipline specialist is not necessarily obvious to the student. The status of 'authoritative discourses' in university education, construed as written texts and images, can mean that the primary focus of a curriculum is frequently on the delivery of content information and not on any negotiation of meaning, at least not dialogically in face-to-face interactions. Subject content is typically presented monologically in lectures to often large student audiences, or increasingly online. Often the only way to determine the extent of a student's understanding is by the assessment of the student's written assignments. Any processes which may nurture the development of the student's understanding remain the

responsibility of the student who is increasingly characterised in university manifestoes as an ‘independent learner’.

Despite calls for university education to engage students in more interactive learning environments (Biggs, 1999, 2003; Trigwell, Prosser and Waterhouse, 1999; among others), any formalised non-virtual dialogic negotiation of meaning often plays a minimal role, if indeed any role at all. Hence, reforms toward more interactive mediated learning and teaching in most Australian universities fail to match the pace of innovative classroom practices taking place in junior educational sectors. Reforms remain particularly slow considering the calls by governments, professional and industry groups, and the media for graduates to have developed high level negotiation and communication skills.

The revisions that have taken place in the last decade in Australian universities draw more from personal constructivist approaches informed by Piagetian theory of genetic individualism. Piagetian and personal constructivist influences are apparent in government and university rubrics, such as, ‘student-centred learning’ and ‘independent learning’. The influences are also apparent in the growth in online dialogic learning. The distinction made here between the two interpretations of dialogic learning is that the Vygotskian social constructivist approach acknowledges that learning develops in the dynamic of spoken interactions. Within this view, the development of student understanding has its origins in the social dynamic between interactants. Significantly, the defining property of this development is language. It is the dynamic nature of the interactions and mediation between lecturer and students that is fundamental to student learning, rather than any solitary communication construed as written dialogue. Hence, personal constructivist online dialogic learning, while valuable in many ways, is considered here to be a resource in the curriculum. The view concurs with Becker’s (1997:1360) finding in economics education that physical capital may be a poor substitute for human capital.

For second language students who are new to Australian university education, the development of their understanding of complex academic meaning can mean the need to traverse Hasan’s (1986b) concept of *semiotic distance*. Such a *distance*, Hasan contends, is a cleavage and one of discord for students whose experiences are construed

in other languages and cultures. It is Hasan's concept of such a cleavage which is of particular interest in this study. This interest arises from the apparent differences in the data presented here which indicate another view of teacher-student interactions from the other relevant studies of dialogic learning and classroom talk. Rather than critical concepts being realised incrementally by the students, albeit recursively, the apparent difficulties experienced by this cohort with their task in economics appear to result in more 'peripatetic' interactions between the lecturer and students. The data indicate that traversing the distance between congruent and more abstract and metaphorical meanings was indeed problematic for these students.

The distinct bi-nominal categories frequently described in discussions of classroom talk, ie, between commonsense knowledge and language used for reflection along a spoken-written continuum, are shown to be somewhat misleading by Hasan (1985a, 1992, 1999a, 2001) and by Cloran (1994, 1995, 1999a, 1999b, 2006 draft) in their work in naturalistic spoken data, including spoken pedagogical discourse. Their analyses reveal that there are in fact continual shifts between metaphor and congruent realisations in any interaction. Cloran (1994:11) argues the case that any text may in fact consist of a mix of language,

Does any single instance of language use—any text—involve language of one kind or the other, i.e. decontextualised or contextualised language, or is there a mix of the two types in any specific instance? It would seem that even in what is considered to be the most decontextualised use of language, i.e. the written language of academic articles, there is a mixture.

The theoretical opportunities, then, to extend Vygotskian ideas of semiotic mediated learning to a new educational context are offered predominately by Cloran's (1994, 1995, 1999a, 1999b, 2006 draft) work on Rhetorical Units; Hasan (1983, 1984, 1985a, 1986a, 1986b, 1989, 1991, 1992a, 1992b, 1999a, 2001); Hasan and Cloran's (1990) network of semantic choices for asking questions; and Cloran's (2006 draft) characterisation of the structure potential for Bernstein's (1971, 1973, 1975, 1990, 1994, 1999, 2000, 2001) notion of pedagogic discourse.

The context of the study

Immense changes and challenges have been occurring in universities in Australia and other countries, such as the United Kingdom and New Zealand, over the past decade. This study is motivated by these challenges which now face students and academic colleagues as they attempt to realise their educational ambitions. The challenges include the emergence of management-led corporate universities; rapid expansion in student enrolments; new student cohorts whose financial contributions to university education ensure the survival of the higher education sector; and the severe rationalisation of resources.

Increasingly, the provision of university education has meant lecturers need to cater for larger and more diverse student populations. With the larger student populations have come greater considerations for inclusion and equity. Yet, these considerations are sometimes countered by considerable costs - fewer staff are teaching larger numbers of students. Unsatisfactory student:staff ratios have resulted increasingly in electronically mediated learning and teaching. Added into this mix is the massive increase in participation of second language international students. The recruitment of greater numbers of full-fee paying international students is in direct response to the reductions in government funding to university education in the past decade. In 2004, Australia's public universities enrolled a total of 210,397 international students constituting 22.6 percent of the country's total higher education enrolments. In South Australia, the location of this study, an indication of these increases is evident in the enrolments of international students from 5,584 in 1998 to 18,000 in 2006. The majority of these enrolments is in business and engineering degree programs. These enrolments constitute both on-shore and off-shore provision. Such increases contribute to Australia currently being the third largest commercial exporter of higher education services internationally, after the United States and United Kingdom (Harman, 2006).

In the immediate future, demand for Australian higher education by international students is predicted to exceed supply. The demand is driven principally by two factors. The first is the greater status of a foreign degree compared to a local qualification in many developing countries. The second factor concerns the lack of access in some countries by some local students to local institutions and so they gain admission to

overseas' universities (Altbach, 2003). The dominant flow of students is overwhelmingly from developing to developed countries.

A manifestation of these changes is the growth of service subjects, such as economics, statistics, maths etc in the most sought-after degree programs. Due to the pressures of having to respond to these rapid changes, the curricula of some service subjects, such as economics, have been the subject of recent criticisms. The criticisms are relevant to this study. The essence of the criticisms is the relevance or otherwise of teaching arcane economic principles and theories to business students rather than a more applied understanding of economic issues.

The role of communication skills programs in higher education – bridging Bernstein's notion of 'two faces'

The student cohort in this study is representative of this new era of university education. The students were newly-arrived second language international students enrolled in a business degree program at an Australian university. The students completed the final stage of a 'twinning' arrangement between the Australian university and an educational institution in Malaysia. The students undertook their first two years of study in Malaysia and then completed their final year in Australia. The twinning arrangement meant the students graduated with an Australian university degree in business. To ensure the success of the arrangement economically and academically, on their arrival in Australia the students were offered an elective subject for one semester in the form of an academic support program. The curriculum provided intensive support in two compulsory service subjects in the business degree program: economics and accounting. It is the students' involvement with the economics curriculum in the support program—the Business Communication Program (BCP) - which is the focus of this study.

Twenty-one students chose to study in the BCP in its first year. The case study here examines the dialogic negotiations of one cohort from the first program as they undertook an assignment in economics. The cohort comprised five Chinese-Malaysian students whose first languages are different dialects of Chinese and who all speak Mandarin as their *lingua franca*. The students had varying capabilities in their use of English.

The BCP is typical of many accredited ‘communication’ or ‘academic support programs’. These programs are often hybrids in the way the principal lecturer, usually a language specialist, may draw on innovative learning and teaching methodologies, at least for university education, to teach discipline content. Such programs can assume different guises in different university contexts. Some programs are compulsory for all students; other programs are designed for particular cohorts, most often second language students, as in this study.

Several important aspects of these programs are commonly shared. The first concerns the value placed on the explicit teaching about language as a resource for meaning-making. Another is that more interactive and heuristic teaching methods are used wherever possible. A third is the recognition that students’ skills of critical thinking and interpretation are among the most desired graduate attributes. The broad aim of most curricula is to engender such skills. Many of these subjects have shifted from a psychological focus on how students acquire ‘study skills’ towards a view of academic disciplines as socially constructed discourses. The major goal of most curricula, then, is the production of written texts influenced notably in Australian universities by systemic functional linguistics and the work of genre specialists (Martin, 1985; Martin and Rothery, 1980, 1981; Swales, 1990; Halliday and Martin, 1993; Martin and Veel, 1998; Wignell, 1998a; Wignell, Martin, and Eggins, 1989; among others). None to date has focused on spoken interaction, as in this study.

The impact of these programs on educational practice in universities is rarely acknowledged as extending beyond ‘student support’. Indeed, a down-side to such programs is that they perpetuate in many ways the notion of a “correspondence” model of language and learning. By ‘outsourcing’ the teaching of academic literacy to language specialists rather than embedding the development of such skills in core curricula, the status of the support subject or program, often as an adjunct to the core curriculum, maintains the perception of a dichotomy between language and meaning. The result is a continued reification of the role of language in student learning. Thus, by remaining adjuncts, such programs unintentionally perpetuate the perception that ideas are considered external to a speaker; language is conceived of as a conduit, as Reddy (1979) argues, which relays “underlying” meanings.

Conversely, the innovative teaching practices often employed in the programs can provide a valuable bridge between the new economic and political demands on universities and the immense pressures on traditional styles of educating. As universities need to off-set reductions in government funding, they are also having to respond to new external regulations in the form of demands from the government and employers as stake-holders for work-ready graduates (Business/Higher Education Round Table, 1995; Clancy & Ballard, 1995; Boyer Commission, 1998; DEETYA, 1998; Tait & Godfrey, 1999; Atkins, 1999; Boud & Garrick, 1999; Fallows & Steven, 2000). These influences are significant in profession-based disciplines in which the enrolments of international students are the highest, such as in engineering, business and commerce, health sciences, and in 'service' subjects within these disciplines.

The growth of these external influences on higher education in Australia is reflected in the increase in university manifestoes that cite among their educational endeavours a series of 'graduate attributes' for students. Typical attributes cited, yet largely undefined, are 'communication skills', 'decision-making skills', 'critical thinking' and 'team work skills'. Thus, the challenge for many academics has been the need to consider more interactive and heuristic teaching and learning strategies to foster these attributes, yet at the same time, cater for the results of intensified marketing of higher education.

A useful critique of the shifting relationships between universities and political and economic influences is provided by Bernstein (2000). Bernstein refers to these changing relationships as ones of 'regionalisation'. 'Regionalisation', he explains, involves largely singular discourses having to respond to new external regulations. The result is that this singular canon now needs 'two faces', one that perpetuates a discreteness within the educational context, and the other that faces outwards to institutional practice in response to new standards of practice and accreditation.

The challenge for many academics of 'regionalisation' is how to incorporate and integrate into existing curricula the generic skills desired of graduates by employers. As recommended by the Boyer Commission on Educating Undergraduates (1998), each institution and its schools and departments has sought their own solutions. However, the

tensions that have arisen as a result of some solutions sought to date often come from within the discipline. One example is the growing criticism of the economics curricula taught to business students as a service subject in some Australian universities (Barrett, 2005). The criticisms call for an approach to teaching which reconceptualises the curriculum by providing a clearer articulation of expectations from stakeholders, such as professional organisations. Without this input, Barrett argues, economics will continue to be taught as a singular canonical discourse with no connection to the experiences students will encounter in their future business activities (Barrett, 2005:160). This discussion will be revisited in Chapter 3 (see *Revisions to economics curricula in undergraduate degree programs*).

Thus, the unintended role of many communication skills subjects is to breach the interstice between the ‘two faces’.

The research project

My interest in dialogic learning began with the inclusion of extensive tutorial discussion in the first communication skills curriculum I designed for second language students in statistics. I had revised the curriculum in the second year of the program to offer students and the lecturer opportunities to negotiate assignments and tasks more fully. The aim of these revisions was to provide a remedy for the students copying model answers. The students’ need to copy highlighted their difficulties in explaining cause-effect relationships in their data and knowing how to display these relationships visually in charts and tables. The inclusion of the discussions was, therefore, a means to mediate and guide their understanding of the relations between their experiments, the statistical data, and the results.

The recordings of the tutorial discussions became the primary data for a smaller trial study. The overall purpose of the trial study (see Chapter 3 *Rationale for the introduction of dialogic learning into a university curriculum*) was to discern any shifts in students’ understanding throughout the discussions and any difficulties that the students’ encountered with meanings in statistics. My interest was to understand how students’ developing understanding of complex relations occurs in discussion with

others. The linguistic analysis indicates the importance of the student's questions and the lecturer's and peers' responses to confirm or correct interpretations. The findings show that similar kinds of increments in the students' understanding occurred as reported in the literature.

Dialogic learning then became a significant inclusion into the curricula of two other accredited communication skills programs that I designed and taught in engineering and business. These programs were again in response to the increasing enrolments of second language international students studying in those disciplines.

In the initial phase of this larger research project, I recorded all the discussions between the subject lecturers and students and between small groups of students in both the engineering and business programs, involving economics and accounting modules, over thirteen weeks of one semester. Once transcribed, preliminary observations of the spoken data revealed very different interactions in the economics module of the BCP from both the trial study in statistics and from the data collected from the engineering tutorials and from the accounting tutorials in the business program. The data were also different from the often exemplary data reported in the literature that serve to illustrate the effectiveness of spoken negotiations in the classroom (Hammond, 1995; Christie, 1998; van Lier, 1989, 1996; Gibbons, 1998, 1999; Swain, 2000 among others). The overwhelming impression and concern was the extent of the students' confusions. The interactions consisted of monologic technical explanations from the lecturer interspersed by minimal feedback from the students, followed then by the students' attempts, once on their own, to recast the lecturer's explanations. These attempts are beset by confusions, misconstruals, disagreements, humour, forbearance and subtle persuasion. Yet, despite the apparent chaos, the students appeared to have relentlessly negotiated their understanding of the economic model by an array of questions, and, most significantly, by the dogged search for reasons to explain the economic model.

Thus this larger research project arose out of a quest to understand more about the nature of the students' confusions and how these confusions were mediated, or otherwise, by the lecturer and by the students themselves as peers. In actual fact, the research arose out of a concern for the students' learning experiences in the rapidly changing environment of Australian university education.

Structure of the thesis

In order to establish the rationale for the introduction of tutorial talk as formalised dialogic learning into a university curriculum, Chapter 2 will outline many of the facets of dialogic learning as an extended background to this study. The examination of the literature related to dialogic learning has been organised into three main sections: first, the ideas of Lev Vygotsky, and in part Mikhail Bakhtin, will be described, providing historical perspectives on dialogic learning with a focus on semiotic and social mediation of mental activity and the notion of authoritative canonical historical discourses. The second section will discuss those studies which have combined systemic functional linguistics to examine dialogic learning, as demonstrated in classroom talk in primary, secondary and second language classrooms. The third section of the chapter will provide an account of pedagogical practice favoured in university education from the perspectives offered by Bernstein's (1971, 1975, 1990, 2000, 2001) social pedagogical theory of 'coding'.

Chapter 3 will outline the methodology that shapes the research and the procedures involved in collecting the data. The chapter will then discuss the motivating factors for introducing dialogic learning into a university curriculum. These factors are based on findings from the earlier trial study in the statistics subject for second language students. Then to establish the context of the curriculum, the curriculum of the Business Communication Program will be described. In preparation for the analysis of the spoken data, the data collection and the criteria for selecting each text in the data will also be explained. In section 2, the history of written economic discourse will be discussed in order to understand the challenges faced by many second language business students undertaking academic economics as a service subject. The chapter concludes with a consideration of the role of visual images and diagrams in economic discourse.

Chapter 4 will present descriptions of the theoretical framework offered by systemic functional linguistics in the analysis of the spoken data presented in this investigation. Throughout the descriptions, aspects of the theory will be related to preliminary

findings in the tutorial data and to findings in the literature regarding economic discourse from a linguistic perspective.

The linguistic analysis of the spoken data will be presented in Chapters 5, 6, 7 and 8. The analysis will open in Chapter 5 with a synoptic account of the significant features identified in the students' interactions. The synopsis will proceed from an analysis of the questions posed by the students. The analysis will use an adaptation of Hasan (1983, 1989) and Hasan and Cloran's (1990) network of semantic choices for asking questions to determine the possible role played by the students' questions in the mediation of meaning. An examination of the questions and responses will then be undertaken at the level of lexicogrammar using ergativity and transitivity in order to determine the experiential meaning of the interactions and to account for any shifts in meaning throughout the tutorial discussion. An important feature of the students' assignment task, being the visual display of the economic model, will also be examined in the chapter for any 'intersemiotic' relationships.

In preparation for the analysis of the interactions at the semantic level, in Chapter 6 Rhetorical Units (RU) will be defined and explained, after Hasan (1985a, 1989) and Cloran (1994, 1995, 1999a, 1999b, 2006). The discussion will take account of the nature of RU analysis; steps involved in the analysis of RUs; the definition of RUs; 'collaborative RUs' as a feature of the student interactions; and the relationships between RUs, including embedded relationships and expanded relationships, as important diagnostic tools in these data.

Chapters 7 and 8 will examine the spoken interactions at the semantic and lexicogrammar strata to reveal the rhetorical activities and ideational meaning construed throughout the tutorial discussion. The purpose of the examination of the rhetorical activities is first, to determine linguistically the kinds of contingency strategies that may have been undertaken by both the lecturer and students, and second, to examine how predictive reasoning as the *raison d'être* of written economic discourse is reconstrued dialogically in this case study.

More specifically, Chapter 7 opens with a discussion of the relation between Bernstein's notion of the regulative and instructional discourses as constituents of pedagogic

discourse. By taking Bernstein's characterisation of the regulative discourse as a beginning point in the investigation, the problems of identifying the regulative discourse in university education will be described. The analysis of the tutorial data begins with an examination of the students' self-regulation of their assignment task. In particular, the analysis of their data will focus on the connections between the students' regulation of their assignment task and their understanding of the instructional content. This investigation is intended to extend Vygotskian notions of semiotic mediation within the dynamics of an innovative program for university education involving peer mentoring and collaboration.

The investigation then moves to an examination of the lecturer and students' use of the instructional discourse and experiential meaning. The shifts identified in the synopsis of experiential meaning in Chapter 5 will be further investigated. Using Cloran's (2006 draft) characterisation of the structure potential for the instructional discourse, the discussion will define and exemplify the various functional elements and sub-elements identified in the tutorial data. The semantic realisation of each element and sub-element is again made possible by the linguistic resources offered by Rhetorical Unit analysis. The analysis will take account of the kinds of RUs and the relation between RUs. From this analysis, it is possible to determine the contingency and appropriation strategies undertaken throughout the tutorial discussion.

The characterisation of semiotic mediation and appropriation strategies throughout the tutorial discussion will be further examined in Chapter 8. In particular, the discussion will concern the adjustments and shifts in the meanings construed by the lecturer in response to the students' questions. Also an important focus will be the students' responses to the lecturer's explanations. Linguistically, the examination will take account of 'causal' relations at the level of clause and Rhetorical Units at the semantic level. In preparation for this analysis, the investigation will increase in delicacy by describing lexicogrammatical and logico-semantic relations of causal reasoning. The examination will revisit some of the data already presented, and will present further data.

Chapter 9 reflects on the aim and implications of the study in relation to the effectiveness, or otherwise, of dialogic learning and semiotic mediation, as applied in a university curriculum.

The significance of this research, then, is to provide a unique in-depth examination of the complex nature of spoken academic language characterised in dialogic learning and semiotic mediation, by way of this case study, and to offer particular insights into the participation of second language international students and teaching practice in Australian university education.

Data and Conventions

The initial sets of texts which form the data for this study were drawn from the corpus of lecturer-student and student-student tutorial interactions from the Engineering and Business Communication Programs. The decision to refine the research to an in-depth analysis of the economics module of the business program as a case study was made on the basis that the interactions indicate that the students experienced significant difficulties. Their difficulties are the issue under consideration here.

The data consist of the transcripts of dialogues between: i. the economics lecturer and students, and, ii. between the students as they worked in their small group during a tutorial in this fifth week of study in Australia. The decision to focus on this particular tutorial session was based on two basic criterion, which were: the quality of the recording and that it was able to capture the extent of the students' dogged attempts to negotiate their task and to overcome their confusions. In contrast, the degree of the students' confusions in their earlier discussions in the economics module meant the spoken data were too limited to undertake any meaningful linguistic analysis.

I was present during the tutorial as facilitator of the session but I did not participate in the discussion. I set up the recording equipment and then the control of the equipment was in the students' hands during the tutorial discussion. All the students were aware that the recordings were for research purposes and gave their written permission for this purpose. The recordings present, as far as can be judged, natural interactions between

the students and the lecturer and between the students as they worked together. Further details regarding the students and the mode of data collection are to be found in Chapter 3 (see Section 1).

The process of transcription involved, as the initial step in the analysis, the segmentation of the tutorial discussion into five phases and then into twelve texts. The phases were determined by the presence or absence of the economics lecturer during the students' discussion. The lecturer joined the student cohort on two occasions as she moved around the room. The discussions were then segmented into two sets of texts: those involving the economics lecturer and those involving student-only discussions. The texts were then segmented by the topic of the discussion marked often by a student question. The texts were further segmented into turns and messages and then assigned numbers. The basis of such segmentation is explained in Chapter 3 (see *Nature of the data*) and Chapter 5 (see *Message semantics*).

The conventions used in the transcriptions of the targeted tutorial discussion are as follows:

Economics lecturer = Eco lecturer

Students = See, Li, Cin, Tiff and Ken

overlapping speech = ==

eg,

turn	mess	interactant	
107	146	Tiff	<i>but how (do) they == how</i>
108	147	See	<i>== I mean I mean base base on the parallel impor</i>
			<i>importing</i>
	148		<i>we don't have to think about those ah demands</i>

pause = [pause]

unintelligible item = []

eg,

turn	mess	interactant	
72	96	Eco lecturer	[] <i>start with that right</i>

uncertain transcription of item = [?]

eg,

turn	mess	interactant	
103	139	Tiff	<i>why [??restrict] ah imports from overseas right?</i>

utterance corrected or elision provided for easier comprehension = (in round brackets)

eg,

turn	mess	interactant	
131	177	Cin	<i>ah ah I('ve) record(ed) that down</i>

inaccurate item omitted = []

eg,

turn	mess	interactant	
370	644	Tiff	<i>because [of] the price is low</i>

transcription commentary = [students laugh]

eg,

turn	mess	interactant	
69	92	See	<i>ahahaha but it's still very cute</i> [students laugh]

Excerpts from texts are used for illustrative purposes throughout the discussion in this thesis. These examples are presented in larger type and italicised. The interactions from which these illustrative examples are drawn are presented in their entirety in Appendix A.

Transcription of the discussions

The students' interactions are described frequently throughout this study as different from those described in the literature. To unravel what appears to be chaotic interactions, and to make clear the data for other readers, the transcription system decided upon was based on consideration of three phenomena occurring in the interactions,

- the high degree of overlap and interruption;
- the high degree of “performance errors” (Eggins, 1990:140) such as repetitions, hesitations, false starts, stumblings, fillers, stallings;
- the grammatical and lexical inaccuracies in the students’ use of English.

Thus the major aim of the transcription of the data was to provide maximum clarity. The result reflects Halliday’s (1985:48) argument that the transcription should be purpose-based. Even so, the system had to reconcile the need to present a tidy version of what happened in the interactions, yet at the same time reflect something of the spontaneity of the students’ tussles and negotiations over meaning. In response, the system used adopts aspects of both “broad” and “narrow” transcriptions, after Eggins (1990:140). In terms of “broad” transcription, normal orthography is used, and importantly the adopted format for each interaction means each student’s turn is set out message by message for clarity of comprehension, for example,

turn	message	interactant	
89	124	Cin	<i>why does the Government apply parallel importing?</i>
90	125	Tiff	<i>on the CD?</i>
91	126	Cin	<i>ah</i>
92	127	See	<i>why ah one of the one of the main thing is to protect</i> <i>= local business</i>
93	128	Tiff	<i>= local business</i>
94	129	students	<i>yeah yes yes yes</i>
		[collectively]	

excerpt from Text 4

In terms of “narrow” transcription, the interactional features including the “performance errors” are represented - as are students’ inaccuracies in word choice or grammar - to demonstrate the uniqueness and authenticity of their interactions. Occasionally, as noted, words omitted by a student or occasional elisions are added to the text to help the clarity of meaning indicated by square brackets []; inaccuracies are indicated by round brackets (). Other diacritics, for example, those indicating overlaps are indicated, as noted, by double hyphens ==,

turn message interactant

184 313 Tiff *and we want to ah import of [into]==Australia right?*
185 314 Li *== yes yes*
186 315 Tiff *so when we restrict (the) er parallel importing*

excerpt from Text 5

Punctuation of the text, with the exception of question marks, has been omitted for the same reason. This decision is at odds with Halliday's (1985:91) suggestion that punctuation is important if standard orthography is used. However, it was decided that punctuating non-standard uses of English only added to the chaos on the page. The resultant transcription is, as Eggins (1990:143) and Edmondson (1981) point out, a compromise approach, which uses normal orthography, yet captures the most important aspect of the students' interactions, ie, the high degree of interaction between them.

Anticipated outcomes of the research

There are six outcomes anticipated from this research. It is hoped that the case study will:

1. provide insights into authentic classroom experiences of the increasingly significant student cohort in Australian university education, being international students for whom English is not a first language;
2. provide insights into pedagogical practices in a university context;
3. complement and extend studies which apply social constructivist and neo-Vygotskian approaches to dialogic learning, classroom talk, semiotic mediation and Bernstein's notion of pedagogical discourse in a new educational context, university education;
4. complement and extend the linguistic analyses of the spoken interactions in dialogic learning using systemic functional linguistics by providing additional ways to show the lexicogrammatical, and, in particular, the semantic choices made by the lecturer and students, following Hasan (1984, 1989, 2001) and Cloran (1994, 1995, 1999a, 1999b, 2006 draft);

5. offer insights into innovative ways for university educators to assist students move beyond ‘ventriloquism’, interpreted as plagiarism, to an enhanced understanding of educational knowledge;
6. provide valuable insights for educators in economics to consider the role of dialogue in the negotiation of complex and contentious aspects of the discipline.

This research, therefore, is a case study of an innovative curriculum and methodology in university education. The aim of the curriculum was to support the increasingly significant student cohort of second language international students in their transition into the final year of study in a business degree program at an Australian university. The case study offers an in-depth examination of the lecturer and students’ negotiations of meaning in the economics module of the program. In this endeavour, the study attempts to extend the linguistic analyses of dialogic learning in its application in academic economics.

Chapter 2

Dialogic learning : theoretical perspectives

Introduction

Learning through dialogue has a long history, with precedents as far back as Socratic dialogues (Penn, 1972:41-42) and Platonic allegories. While it is not the intent in this thesis to provide an historical, or indeed, a classical account of the role of dialogue in learning, the thesis does draw on the work of Lev Vygotsky, which was first published in Russia in the late 1920s, not long before his death in 1934, on systemic functional linguistic theory developed by M.A.K. Halliday, and on Basil Bernstein's theory of pedagogic discourse over the past four decades. A significant part of Vygotsky's influence on current research in education is an interest in students' abilities to relate known concepts in known contexts to new abstract categories by way of guided or 'scaffolded' learning. Of particular interest is Vygotsky's theory of *social and semiotic mediation* as a foundation of dialogic learning. A salient feature of this process is the use of signs – the most important system of signs being language, as Vygotsky (1978:40) states,

The use of signs leads humans to a specific structure of behaviour that breaks away from biological development and creates new forms of a culturally-based psychological process.

The essence of social and semiotic mediation and student learning, as interpreted here, adopts Hasan's (1996:152) concept that language use construes "the deep meaning of human social interaction".

The recent resurrection of interest in 'classroom talk' and 'dialogic learning' in educational studies has occurred in primary and secondary education over the past three or four decades in the United Kingdom, North America and Australia. An historical overview of this development has been given by Hammond (1995); Christie (1998); and Gibbons (1999). The relevant research has taken place within social constructivist and

neo-Vygotskian and systemic functional linguistic theoretical frameworks. The social constructivist and neo-Vygotskian research has been conducted primarily within sociocultural theory and scaffolded learning, also within sociolinguistics by Woods, Bruner and Ross, (1976); Wells, (1981, 1986, 1997, 2001); Wells and Claxton, (2002); Cazden, (1972, 1988); van Lier, (1989, 1996); Maybin, (1994); Maybin, Mercer, and Stierer, (1992); Mercer, (1995); Swain, (2000); Lantolf, (2000). To date, however, in these studies it has been the social aspects of mediation which have occupied most adaptations of Vygotsky's ideas with little interpretation of discourse or linguistic phenomena. The most relevant research in relation to this investigation are those studies which have drawn from the resources of systemic functional linguistic studies, including Halliday, (1973, 1975, 1976, 1978, 1984, 1985, 1987, 1990, 1994, 1996, 1999, 2004); Hasan, (1983, 1984, 1985a, 1986a, 1986b, 1989, 1991, 1992a, 1992b, 1996, 1999a, 2001); Halliday and Hasan, (1976, 1985); Hasan and Cloran (1990); Bernstein (1975, 1990, 1996, 2000); Martin (1992); and from the literature on conversation analysis, including Berry (1981a); Eggins (1990b); Schrifin, (1994); Sinclair (1997); Sinclair and Coulthard (1975); Eggins and Slade, (1997). This research includes Cloran, (1994, 1995, 1999a, 1999b, 2006 draft); Hammond, (1995); Christie, (1998); Gibbons, (1991, 1999); O'Halloran, (1999, 2000, 2003, 2005); Royce, (1999); Mohan and Gulbahar, (2003).

This chapter outlines many facets of dialogic learning as an extended background against which the theoretical perspectives informing the research – that of systemic functional linguistics and Rhetorical Unit analysis – can be presented and understood. The literature has been organised into three main sections. The first section includes those documents which provide historical perspectives of dialogic learning, in particular, the approaches which focus on semiotic mediation. The second section focuses on the role of language in learning from a systemic functional linguistic perspective; including studies which use the dual influences of Vygotskian and Hallidayan systemic functional linguistic theory to examine dialogic or 'scaffolded' learning in primary, secondary and second language classrooms. The third section of the chapter takes account of the potential dichotomies created by the introduction of social constructivist pedagogical practice into a university degree program from the perspectives offered by Bernstein's (1971, 1975, 1990, 2000, 1999, 2001) theory of code in pedagogical practice.

Role of dialogue in learning

This section of the chapter deals with the foundational notions of dialogic learning. The purpose of the discussion is to examine important aspects of Vygotsky and Bakhtin's frameworks.

Vygotsky: foundations of contemporary dialogic learning

Although a contemporary of the developmental psychologist, Jean Piaget, and working shortly after John Dewey (1916/1975), Vygotsky's influence on western education has been minimal, particularly in comparison to Piaget, due in large part to the suppression of his work by Soviet authorities from the 1930s onwards. Nonetheless, since the translation and publication of his book, *Thought and Language*, in 1962, Vygotsky's work has been gaining increased attention in western countries in the fields of education, psychology and sociology. The growing influence of Vygotsky in primary and secondary education in predominately English-speaking countries to date – within a social constructivist pedagogical practice-arises from his extensive work involving the cognitive development of children resulting from explicit recognition of the role of language in the development of higher mental function, mediated activity, and interpersonal communication.

Particular aspects of Vygotsky's framework concern the developmental relationship between elementary perception and *higher mental functions*. From this perspective, *higher mental functioning*, in the form of individual consciousness, has origins in the external world of social relations, whereby a gradual transformation takes place from the *intermental* plane of social interaction, as *outer speech*, to the *intramental* plane as silent *inner speech*. Possibly due to the absence of any substantial theory of language or social context in Vygotsky's work, it seems aspects of "higher" mental functions have attracted limited attention. The vast majority of research interest in education within neo-Vygotskian frameworks, conducted within sociocultural theory and scaffolded learning (Woods, Bruner and Ross, 1976; Wells, 1986, 2001; Wells and Claxton, 2002; van Lier, 1989, 1996; Maybin, Mercer, & Stierer, 1992; Maybin, 1994; Mercer, 1995; Swain, 2000; Lantolf, 2000), has focussed primarily on aspects of social mediation, most particularly in relation to teacher and students interactions, and more recently

between students as peer mentors. There has been little interest to date in specific transformations in students' understanding from a linguistic perspective, ie in relation to aspects of *semiotic* mediation. This study aims to take account of potential transformations in students' understanding throughout their interactions with the lecturer as mentor and student colleagues as peers.

Major themes in Vygotsky's framework

Vygotsky's framework is underpinned by three general themes, highlighted by Wertsch (1985:14, 1991:19ff),

1. a reliance on a genetic, ie, a developmental method;
2. the claim that higher (ie, uniquely human) mental functioning in the individual has its origins in social activity; and,
3. a defining property of human mental action is its mediation by signs.

Genetic, ie, a developmental method in student learning

Central to Vygotsky's ideas is the evolutionary relationship within guided instruction between *lower natural mental functions*, as in elementary perception, and *higher mental functions*, such as concept formation and problem solving. An important aspect of Vygotsky's framework is the notion of continual interweaving between lower and higher mental functions. Elementary perception, in Vygotsky's view, is not superseded by higher mental functions. Instead, elementary perception becomes embedded in higher more mature mental functions in a process of "genetically differentiated layers" (1987:xxix). Hence, Vygotsky's influence on educational practices involving classroom talk is based on an acceptance that the construal of educational knowledge depends on an iterative process of mediated interactions as students' more spontaneous mental functions transform gradually into *higher mental functions*. In explaining Vygotsky's developmental approach to concept development, Painter (1995:35) states,

... rather than a developmental model of linear stages, he saw learning as a dialectical, spiralling process, where achievements at one "level" provide a stepping stone to the next, which having been attained, transform the next.

Everyday or spontaneous concepts are learned through practical, concrete applications (Vygotsky, 1987:216), while abstract or scientific concepts only evolve under conditions of co-operation between the child and the teacher (Vygotsky, 1986:148). From this perspective, abstract or scientific concepts can only be understood in terms of their place in a system of relations mediated through conscious awareness and deliberate control.

This view is at odds with Piaget's notions of concept development and his influence on current adaptations of personal constructivist approaches to learning. Children, in Piaget's view, according to Vygotsky's criticisms, need to acquire adult knowledge in a process of transmission and so forego childish naïve understandings. For Piaget (1971:163) "...before the age of ten or eleven the child is hardly capable of any kind of formal reasoning". Individual cognitive development is bound by an antagonism and mutual exclusivism between childish concepts and those of adults. In such a view, according to Vygotsky, if an awareness of concepts comes in a ready-made form from the world of adults, there is no need to consider the maturation process of the learner in acquiring higher mental functions, such as evolving reflective awareness or deliberate control. Instead, Vygotsky (1986:157) considered the relationship between naïve perceptions and a mature psyche as a related unitary process. Childrens' "natural functions" are the building blocks of later higher cognitive functions. Within social interactions and mentoring, learning is a dialectical process, not at all teleological or uni-directional.

The distinction Vygotsky (1986:161) draws between spontaneous and abstract concepts are analogous to the acquisition of a native language and a foreign language. Both are semiotic, but while a demarcation may exist between the spontaneous development of acquiring a native language and immediate experience, and the systematic instruction in learning a foreign language and conscious reflection, the relationship is a continuous one,

In learning a new language, one does not return to the immediate world of objects and does not repeat past linguistic developments, but uses instead the native language as a mediator between the world of objects and the new language. Similarly, the acquisition of scientific concepts is carried out with the mediation provided by already acquired concepts.

Of relevance to this study are Vygotsky's views of concept formation and the relationship between spontaneous and scientific concepts in adolescents and adults. Vygotsky (1986) makes several comments about the transitional stages of adolescent thinking to do with concept formation; the expression of concepts in words; the application and transfer of concepts to new contexts; and the application of abstract concepts to more concrete experiences. The point is made that it would be erroneous to imagine that the transition for young adults, or indeed adults, to a higher developmental stage is mechanical or that it supercedes more formative stages in understanding,

Even after the adolescent has learned to produce concepts, he does not abandon the more elementary forms; they continue for a long time to operate, indeed to dominate, in many areas of his thinking (p.140).

Any difficulties adolescents and adults experience with abstract concepts, Vygotsky (1986:149) acknowledges, "lies in their *verbalism*, i.e., in their excessive abstractness and detachment from reality". Of these difficulties, Vygotsky states,

The adolescent will form and use a concept quite correctly in a concrete situation, but will find it strangely difficult to express that concept in words, and the verbal definition will be much narrower than might be expected from the way he used the concept. The same discrepancy occurs also in adult thinking, even at advanced levels (p.141).

Regarding the application and transference of concepts to new contexts, Vygotsky (1986:141-142) observes,

The adolescent encounters another obstacle when he tries to apply a concept that he has formed in a specific situation to a new set of objects or circumstances, where the attributes synthesized in the concept appear in configurations differing from the original one.

Much more difficult than the transfer itself is the task of defining a concept when it is no longer rooted in the original situation and must be formulated on a purely abstract plane, without reference to any concrete situation or impressions.

It will be seen throughout this study, that the challenge for learners of defining and understanding abstract concepts without reference to any concrete equivalence, as identified here by Vygotsky, had resonance for the student cohort in their studies of economics.

Higher mental functioning has its origins in social activity

Learning and the maturation of conceptual thinking, in Vygotsky's view, evolve through social mediation toward an individual consciousness and a motivated construal of knowledge. Interest in Vygotsky's work arises from his explicit recognition that the direct teaching of concepts is considered fruitless; such attempts will inevitably result in an "empty verbalism, a parrotlike repetition of words...covering up a vacuum" (1986:150). Rather, the role of mentor within social mediation, Vygotsky (1986:157) envisioned, is integral in a student's conceptual evolution. Instruction is one of the principle sources of the schoolchild's concepts and is also a powerful force in directing their evolution; he claims, it determines the fate of his total mental development. Gruber and Voneche (1977:692) contrast the differences between Vygotsky and Piaget's views of the teacher-learner relationship. Vygotsky's form of guidance is viewed as a 'Socratic' teacher-directed verbal mode of education in which the teacher shares her knowledge with the child compared with Piagetian 'Eldorado' style involving a materially rich school where the adult participates with the child in the processes of discovery and learning.

Hence, the most well known contribution to educational practice is Vygotsky's (1986) notion of *guided learning* rather than any mutual sharing of knowledge or learning as a process of individual discovery. Learning, for Vygotsky, presupposes the development of many intellectual functions that need to be guided through instruction. 'Guidance' involves a recognition of the differences gained between a learner solving problems alone and the level they reach in solving the problem with assistance or guidance that "marches ahead of development and leads it". Vygotsky emphasises that guidance must be aimed not so much at the ripe as at the ripening functions (p.188). A particular influence in the adaptation of Vygotsky's ideas has been his concept of the *zone of proximal development* (ZPD). In explaining the ZPD, Vygotsky draws the distinction

between what a person can achieve when acting alone or what the same person can accomplish with support from someone else. Vygotsky (p.86) describes the ZPD as,

... the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under ... guidance or in collaboration with more capable peers.

Hence, the significance of guided learning is the distance or conceptual gap between what a student can do unaided and what they can do in collaboration with a more skilled mentor.

In the process of guided learning, all higher mental functions for Vygotsky are at first external before they are part of the individual's inner make-up. In interaction with others, a gradual transformation takes place from the intermental plane of social interaction, as *outer speech*, to the intramental plane as silent *inner speech* Vygotsky's (1986:94) summarises this position,

Thought development is determined by language, i.e., by the linguistic tools of thought and by the sociocultural experience ... Essentially the development of inner speech depends on outside factors, the development of logic ... is a direct function of ... socialised speech ... intellectual growth is contingent on ... mastering the social means of thought, that is, language.

Important for formal education is that what is experienced at first in interaction with others is gradually internalised and becomes a resource for self-directed reflective activities.

Human mental activity is mediated by signs

A key characteristic of Vygotsky's framework is that it is mediated by the use of signs. The most important mediational means is the semiotic system of language. Language is viewed as a communicative tool; the argument being that the learner's cognitive development is shaped by language in use. Language, importantly, is not the expression of cognitive thought, but rather, cognitive development comes into existence through language. An important distinction is made between the context-bound use of a word as

an *indexical signal* to refer to something that is physically present, and the use of the word in displacement, that is, as a symbol to reflect, hypothesise, deduce, etc. Thus it is in the developing use of language that a student's higher mental functioning evolves. Within this process, students' use of language shifts from a context bound word – as an *indexical sign*-referred to frequently as contextualised language, to using words in displacement, as a reflection of a conventional *symbol* for whatever it represents (Matthiessen, 1991:69). For students to arrive at the stage of abstract thinking is to use the sign system of language symbolically. Learning dialogically enables students therefore to develop beyond their elementary perceptions of everyday concepts to an understanding and construal of more complex, abstract concepts.

The debate as to whether language can influence thought or the converse dates back as far as the cogitations of Socrates, Plato and Aristotle (Penn, 1972: 41-42). Vygotsky and Piaget continued this debate. Piaget stressed that the changes in cognitive development are influenced by individual experiences over time. As such, Piaget (1972:14) believed that language development is the result or by-product rather than the cause of cognitive development,

Linguistic progress is not responsible for logical or operational progress. It is rather the other way around.

Although language, as a semiotic system of signs, was for Vygotsky central to mediating behaviour and learning, his framework did not theorise any linguistic system beyond “the word” as the key unit for analysis. Vygotsky (1986:224) did, however, distinguish referential meaning from other aspects of word meaning, pointing out that word meaning acquires its sense from its context.

Bakhtin: extending an understanding of the role of dialogue and ‘authoritative texts’

The complementarity between Vygotsky and Bakhtin's views on the nature of language and “speech genres” has also attracted a deal of attention in recent years. As with Vygotsky's work, much of Bakhtin's ideas of social context, language system and text are pre-theoretical. Bakhtin's (1986) framework encompasses the notion of *utterance* as

the natural unit of verbal interaction which is determined by the particular sphere of communication. “Relatively stable types” of utterances invoke a *speech genre*. Bakhtin’s framework of voice, utterance, speech genres and dialogicality includes realisations that,

- to speak is to be located socio-historically, ie, that utterances are intertextually related to the entire speech process “Each utterance is filled with echoes and reverberations of other utterances” (1986:91);
- language is discourse that is specific to particular registers/genres so that ways of speaking construe particular forms of consciousness;
- dialogue is dynamic; however, meaning in authoritative discourses is unnegotiable;
- interactants in dialogue may not reach *logos* or even consensus.

Hence, the significant contributions made by Bakhtin (1986), ie, in extending Vygotsky’s specific focus on mediation, is to account for cultural, historical and institutional contexts.

Dialogue in the form of *utterance* was for Bakhtin (1986:92) a key concept in relating human activity or social situation socio-historically, and therefore, intertextually to other utterances,

However monologic the utterance may be (for example, a scientific or philosophical treatise), however much it may concentrate on its own object, it cannot but be, in some measure, a response to what has already been said about the given topic, on the given issue, even though this responsiveness may not have assumed a clear-cut external expression ... The utterance is filled with *dialogic overtones* ... After all, our thought itself—philosophical, scientific, and artistic—is born and shaped in the process of interaction and struggle with others’ thought, and this cannot but be reflected in the forms that verbally express our thoughts as well. [original emphasis]

Language use, in Bakhtin’s view, involves a “heterogeneity of voices”, ie, discourse is defined by social situations or a specific community which construe specific registers and genres (1986:91),

Any concrete utterance is a link in the chain of speech communion of a particular sphere ... Utterances are not indifferent to one another, and are not self-sufficient; they are aware of and mutually reflect one another ... Our thought itself—philosophical, scientific, and artistic—is born and shaped in the process of interaction and struggle with others' thought

In applying Bakhtin's ideas of socio-historical "heterogeneity of voices", then, the pre-eminence in western cultures for high degrees of generality and scientific rationality is a result of particular socio-historical trajectories.

Bakhtin was committed to the importance of *parole*, as Hasan (1996:167) observes, in recognising language as it is actually used in verbal interaction. However, as noted, Bakhtin's commitment to utterance as the natural unit of verbal interaction to account for possible variations is not fully theorised. Similarly, the Bakhtin framework does not offer any means for including different orders of higher mental functions. Hasan (1996:174) explains,

Although such words as *manifestation, actualization, realization, expressions, etc.* are used by Bakhtin – Volosinov, this use remains informal. ... Bakhtin appears to think that appeal to the system of language can be made to explain the actualization of *only* those categories which conform to the system, replicating the norms exactly. However, as Firth (1957a) pointed out, divergence, originality, individuality in language use cannot be described coherently except by relation to the language system operative in some social context.

Categories of discourse, for Bakhtin (1981), which replicate "the norms exactly" are authoritative discourses, such as, religious, political, education and moral texts. The univocal nature of authoritative discourse means in education these texts are suited to a transmission model of instruction, rather than mediating their meaning dialogically. Bakhtin (1981:344), according to Wertsch (1991:79), conceded a tension between texts given to univocal functions which can be only transmitted, and texts which can be negotiated more dialogically. Of an authoritative text, Bakhtin (1981, in Wertsch, 1991:78) claims,

... [it] enters our verbal consciousness as a compact and indivisible mass; one must either totally affirm it, or totally reject it.. It is indissolubly fused with its authority—with political power, and institution, a person—and it stands or falls

together with that authority. One cannot divide it up, agree with one part, accept but not completely another part, reject utterly a third part.

Bakhtin's view of "authoritative discourses" has resonance for the challenges of adapting a Vygotskian model of dialogic learning to university education. Bakhtin's description of authoritative discourses reflects the written discourse of neoclassical reductionist economics – a discourse largely unchanged since its emergence in eighteenth and nineteenth century Britain and Europe. Characteristics of written educational economics discourse will be revisited in Chapter 3 (see *The written discourse of economics: begins with abstraction and metaphor*).

For Vygotsky, dialogic negotiation means the striving for congruence and *logos*. However, Bakhtin acknowledges that interactants, even the mentor–pupil dialogic relationship, will experience difficulties. A difference therefore exists, as Cheyne & Tarulli (2002:3) observe, between Vygotsky's notion of eventual consensus and Bakhtin's acknowledgement of difficulties,

In the Bakhtinian version ... it is the struggle with difference and misunderstanding that dialogue and thought are productive and that productivity is not necessarily measured in consensus. Vygotsky, on the other hand, emphasizes the need for interlocutors to occupy the same epistemological space...

In drawing out the differences between Vygotsky and Bakhtin's concepts of teacher–student interactions and consensus, three scenarios are distinguished by Cheyne & Tarulli (2002:5). A review of these scenarios is offered in prospect, that is, in anticipation that the dialogues in this case study may conform more to a Bakhtinian model of dialogic learning; one that is characterised by a struggle and dogged determination to understand arcane concepts and reasoning.

The three scenarios are described as follows,

1. Magistral dialogue: the authoritative other. The Mediaeval scholastic tradition of Magistral dialogue, according to Cheyne and Tarulli (2002:5), resemble the

structure of Vygotsky's ZPD. The functioning of the Magistral dialogue centres on the hierarchical relation between interactants, based on the asymmetry of the mentor's cultural knowledge, educational knowledge, and from a systemic functional linguistic perspective, between the tenor or status of the interactants. The authors point out that Magistral dialogue proceeds most effectively when the student's input can be anticipated and responses are "ready at hand". In this dialogue, the mentor authoritatively guides the initiate toward the final phase, being the *communio* or consensus. Eventually, the Magistral dialogue becomes more of a Socratic dialogue as the student takes greater control and negotiates meaning.

2. Socratic dialogue: the questioning other. Two important features of Socratic dialogue are that it is suspicious of consensus, and therefore often, unlike the aims of Magistral dialogue, eludes "telos" or "logos". In the ideal Socratic dialogue, the student not only gains more understanding in the process of ZPD, but gains "assimilation—more or less creative—of others' words" (Bakhtin, 1986:89). The Socratic dialogue is not conceived of, as Cheyne and Tarulli (2002:6) observe, as having any unidirectional influence on the student; rather it is "an encounter of differences that carries the potential for interillumination". However, as the student develops greater understanding, complications can arise. While there are greater opportunities for question and answer by the interactants, the mentor requires an openness, as in educational contexts, where educational knowledge may be challenged and indeed conflict between interactants may escalate, as Cheyne and Tarulli explain,

The ideal Socratic dialogue will be guided by an openness to the emerging truth of the given subject matter and not simply by the adult's prepossessed knowledge. Now this is never more than an ever present possibility. Certainly, Socrates' interlocutors were not distinguished by their ready abandonment of the Magistral voice ... (p.6)

3. Menippean dialogue: the breakdown of the mentoring relationship. The path from Socratic dialogue to chaos, Cheyne and Tarulli (p.6) claim, is fairly direct. Bakhtin, they argue, stressed a hint of carnival and perplexity in Socratic dialogues. The Menippean dialogue is described as dialogue in which Magistral authority is turned on its head. The chaos of Menippean dialogue is the result of

the mentor's unwillingness to yield to any change in status to the student, and so, as the student strives for greater emancipation, the relationship deteriorates.

The important contribution of these scenarios is the acknowledgement that *logos* or an increased understanding as a result of teacher-student interactions may not be a learning outcome for all students.

Systemic functional linguistic perspective: language as the principal resource in the development of knowledge

In exploring the development of language and learning, Halliday, with colleagues (Halliday and Hasan, 1976, 1985; Halliday and Matthiessen, 2001, 2004; Halliday and Martin, 1993) has extended an understanding of language beyond Vygotsky's notion of 'the word' to a complex semiotic system. Important in this study, is the nexus offered by these studies in systemic functional linguistics in analysing the association in Vygotsky's framework between semiotic mediation and higher mental functioning.

Language, Halliday (1993a:94) argues, is the principal resource in the development of knowledge; "language is the essential condition of knowing, the process by which experience becomes knowledge". The strength of a systemic account of dialogic classroom talk over other approaches lies in its stratified descriptions. In this approach, language not only constructs the meaning of individual messages but also social and cultural contexts. Reciprocally, these contexts activate meanings which in turn activate lexis and grammar. According to the systemic functional model of language, there is a systematic non-arbitrary relationship between context and meaning and between wording and meaning. The relationship is one of realisation: wording construes meaning, and meta-redundantly, wording and meaning construe context (Halliday, 1992). The concept of context—one which is central in Halliday's work - draws primarily from Firth's (1957) system-structure theory, from Prague school linguistics (Daneš, 1974) and from British and American anthropological linguistic traditions (Malinowski, 1923, 1935, 1946; Sapir, 1949; Whorf, 1956). Oft quoted from Malinowski (1946:307) is the statement, "the meaning of any single word is to a very high degree dependent on its context".

From a systemic functional linguistic perspective, then, language is viewed as a resource for meaning-making (Halliday and Martin, 1993:22-23), not simply a naming system for pre-existing concepts or an external conduit for meanings, ideas or concepts. Similarly, language is not considered to be innate. The development of language involves the development of a system of meaning choices for interactants to both act on the world and to reflect on it. In relation to the discourses of academia, Whorf (1956:221) states,

... research begins with a set of sentences which point the way to certain observations and experiments, the result of which do not become fully scientific until they have been turned back into language, yielding again a set of sentences which then become the basis of further exploration into the unknown.

A challenge confronting students as initiates into academic discourses is the need, first, to reflect on relations between everyday mundane experiences and highly abstract ideas. A more difficult challenge, as Halliday (1999:22) acknowledges, is then to learn the complex systematised ways that educational texts construe discipline knowledge. Hence, these challenges, among others, have given rise to the use of collaborative talk within innovative social constructivist theories of education as a means to create the necessary continuity with the students' experiences and the more abstracted concepts of educational knowledge. Within the various adaptations of dialogic classroom talk, students' engagement with abstract knowledge is mediated in collaboration with other people, so that a student's understanding is calibrated by shifts from intersubjective domains of 'I', 'you' and 'we' and the congruent construals of their physical activities and the material environment to the more esoteric domains of educational knowledge, most typically construed in university discourses in written and multimodal texts. As Whorf (1956:152) acknowledges, talking appeals to the "common sense", so that the continuum between "common sense" and what amounts to the new language of our "thought world" can be understood. It is our "thought world" which enables us to analyse reality as a continuum between "things" and "formless existence" (p.147). This view of such a continuum has been seminal, from a linguistic perspective, in the advent of dialogic classroom talk.

It is interesting to note, that while these ideas are considered fundamental innovations within twentieth and twenty first century education, they in fact mirror classical precedents. The origins of classical Greek grammar, as Halliday (1994:xxiii) points out, were the grammar of speech and rhetoric. Since the transformations of rhetoric into Aristotelian logic during the Middle Ages and into the Renaissance period, the study of grammar has been the grammar of written discourse. The history and status of written discourse will be further discussed in relation to the discourse of economics—a discourse with eighteenth century neoclassical precedents emerging out of the transitions from rhetoric to written logic.

Similarly, classical precedents exist in relation to the role of dialogue in realising the continuum between our commonsense and our ‘thought world’. Perhaps the most notable is Plato’s allegory of the divided line presented as a Socratic dialogue in *The Republic* written around 380 B.C. Within Plato’s concept of the divided line, human thought perceives the world as both visible and intelligible. The visible world is constituted by material objects *pistis* and knowledge *epistēmē*. The intelligible world is construed by way of reason and was considered to be unchanging. Achieving *epistēmē* or knowledge is a dialectic process by way of questions and answers, as characterised in Socratic dialogues. The relation between two parts, ie, between the visible and the intelligible, is explained by Hooker (1996),

Plato imagines these two worlds ... as existing on a line that can be divided in the middle: the lower part of the line consists of the visible world and the upper part of the line makes up the intelligible world ... The upper region can be divided into, on the lower end, "reason," which is knowledge of things like mathematics but which require that some postulates be accepted without question, and "intelligence," which is the knowledge of the highest and most abstract categories of things, an understanding of the ultimate good.

However, for university students undertaking explorations into *epistēmē* or educational knowledge, it is often necessary to retrieve from abstract written texts the *pistis* or commonsense understanding. So rather than cumulative construals from students’ own experiences and observations to an increased competence and control of technical and metaphorical written texts, the retrieval of commonsense meaning may well involve a more complex process. If this is the case, this retrieval, as Vygotsky (1986:142) argues,

is the “greatest difficulty of all”. The actual or concrete, as Halliday (1998:221) notes, is not always a more congruent form of technical or abstract terms. The technical term may have become a new thing, i.e. “a virtual entity that exists as part of a theory...it can enter into figures, as a participant - it has taken on a new non-metaphoric life of its own” (p.222). Vygotsky (1986:142-3), citing Vogel (1911), states,

The transition from abstract to concrete proves just as arduous for the youth as the earlier transition from the concrete to the abstract... concept formation ... appears as a *movement* of thought within the pyramid of concepts, constantly alternating between two directions: from the particular to the general, and from the general to the particular.

Opportunities in university education, however, for the collaborative retrieval of meaning as part of a social constructivist curriculum are exceptional. As previously noted, university educational practices most often assume both a Piagetian view of the student’s genetic individualism and that any intensive socialised mediated learning is the domain of more junior education. Students are expected to undertake university study with both assumed prerequisite levels of theoretical knowledge and the capabilities to construe abstract meaning and to retrieve mundane equivalences as independent learners.

The use of extensive dialogue as a learning methodology in this study rests on a recognition that the conceptual demands placed on the students as transnational students studying economics equate with Vygotsky’s (1986:149) finding that the difficulty with educational knowledge lies in its “abstractness and detachment from reality”. This feature of educational knowledge is particularly apparent in the written discourse of academic economics-a discourse acknowledged as complex and opaque for many students and particularly so for second language students (Hewings, 1990; Mason, 1990). The complex nature of the discourse is evident when it is described as an *a priori* science rather than an observational science (Smith, 1989:151). Using systemic functional linguistic analysis, Wignell (1998a:323) has found that economics, unlike science, does not translate directly from the commonsense to the technical, “[t]he technical framework is used to interpret the ‘world’, but the models have not been derived from the ‘world’. The theoretical model appears to precede its application to the ‘world’.”

Hence, the application of a “pan-disciplinary” Vygotskyian model of dialogic learning in university may overlook, as Butt (2000) suggests, discipline-specific knowledge and argumentation. This claim may well be prophetic in this study and may anticipate the reasons underlying some of the difficulties encountered by the students.

Complementary relationship between spoken and written language in the learning process

The process/product distinction between spoken and written language from a systemic functional linguistic perspective has been a central focus of a deal of research in primary and secondary education (Hammond, 1995; Derewianka, 1995; Martin, Wignell, Eggins & Rothery, 1986; Eggins, Wignell & Martin, 1987; Wignell, Martin & Eggins, 1987; Christie, 1989; Gibbons, 1991, 1998, 1999). Throughout this work, a common thesis is that the powerful discourses in mainstream education are those that require students to develop competence and control of metaphorical written discourses. In their work, Martin et al. identify generalisation, abstraction, technicality and grammatical metaphor as typical features of written academic texts usually associated with the notion of ‘metaphorical language’. These features in written texts, particularly those with a high degree of grammatical metaphor, Eggins et al., (1987) argue, tend to be considered more prestigious. For students to develop competence with the written discourses of education, an explicit focus on the complementary roles of spoken and written language is advocated.

Written language, Halliday (1994:xxiii) concedes, may appear more orderly than spoken language, and so, in part, has acquired value and status while spoken language has been largely ignored. By contrast, spoken language is in a constant state of flux and responds continually to the subtle changes that take place during discussions. A focus on the analysis of spoken language, Halliday contends, is to realise the potential of the language system itself—a system that is more richly developed and more fully revealed in spoken language. Features of its richness are exemplified by the constant shifts and overt intrusion of “I”, “you” and “we” into the texts, as well, the speaker may backtrack, repair the utterance or lapse into silence, all of which means a spoken texts appear less logical and less systematic than written texts (Halliday, (1990:6).

The need for spoken language to be constantly mobile places immense semantic pressure on the language system. This semantic pressure results in a grammatical agility and complexity which is different from the grammar of written language. The complex nature of written language is not in its grammatical structuring; rather its complexity lies in its lexical density, ie, in the packing together of lexical content into complex nominal groups. In written language there are fewer clauses and in academic written discourse lexical items are dense and typically incorporated into nominal groups as grammatical metaphor. The complexity of written language is static. Meaning in spoken language, on the other hand, is expressed more by grammar than by vocabulary. Spoken language is grammatically intricate but lexically sparse. The clausal structure of spoken language is dynamic, with clauses that are typically long and related through patterns of parataxis and hypotaxis (Halliday, 1994), ie, as independent or dependent clauses.

Although, each mode is complex and has different ways of constructing complex meaning, they are nevertheless varieties of the same language system. The focus on the complementarity between spoken and written language, albeit limited to date, has offered educators valuable insights into how students can develop their control of prestigious academic written discourses.

Second order reflection: reality construed by language itself

From a systemic functional linguistic perspective, academic discourses are oriented toward second-order or symbolic reality. Second-order reality, as Halliday (1978:145) explains, is defined with reference to language. That is, the reality of the discourse exists through language itself. It is only through the ‘enabling’ functions of semantic options of the language that the meaning can be operational in an environment and can “take on relevance to some real context”. Second-order reality is therefore symbolic. On the other hand, first order reality is akin to Platonic *pistis*, being the everyday reality of our material existence (Halliday & Matthiessen, 2001:106),

This is a contrast between semiotic phenomena, those of meanings and wordings, and the first-order phenomena that constitute our material environment.

An elaborated view of second-order reality is provided by Hasan (1999a) in her analysis of the conceptualisation of context as verbal reflective activity. As students create an understanding of the world throughout the process of collaborative talk, Hasan (1999a:264) observes, they are participating in reflection-based activities. These activities are typically verbal semiotic constructs. Verbal reflection based activities have the feature second order in that the speaker is positioned as an observer of already existing concepts. The concepts are to be processed by the intellect, “it calls for mental work, without implying any physical action” (p.278). If there is any physical action, according to Hasan, it is as an adjunct, such as writing an exam-or possibly the drawing of visual images. The point of second order activity is the creation of something semiotic and can include constructs such as rhetorical activities: observations, generalisations, predictions, definitions and descriptions of phenomena. In this sense, second order reflection is reflexive in character; language has the ability to “turn back on itself” in a somewhat parasitic relation with the product of the first order activity (p.293).

Much of what goes on in educational practice, Hasan (1999a:310) observes, is second order reproductive activity. Second order reproductive activity equates with Bernstein’s (1990, 2000) notion of *recontextualisation* of pedagogic discourse. The pedagogic discourse that students encounter at school and university, according to Bernstein (1990:183), is a reproduction of other specialised discourses. It is a discourse which appropriates and relocates the skills and competencies of other discourses and brings them into a special relation in a process of recontextualisation (for further discussion of recontextualisation, see Chapter 7 *Bernstein’s characterisation of pedagogic discourse*). Importantly, recontextualisation is not replication, as Hasan (1999a:312) asserts, discourses need to be discoursed, re-discoursed and meta-discoursed.

Studies which recognise the interwoven patterns of spoken language, as well as symbolism and visual images, include the work of O’Halloran (1999; 2000, 2003, 2004, 2005) and Royce (1999). In these studies of mathematics and economics respectively, their analyses indicate that instances of language use are not at all unidirectional or ‘frozen’ along a metaphorical cline from commonsense to educational knowledge. Rather, each researcher provides analytical categories to examine more ‘peripatetic’ negotiations.

These studies have relevance to this investigation. Shifts and interweavings between different domains appear to occur continuously in the data presented here. The shifts occur as the students attempt to re-construe relations between the second-order metaphorical nature of economic discourse and language which accompanies material activity, such as drawing a diagram, as well as first order intersubjective domains, or, in Halliday's terms, the intrusive personal reference to "I", "you" and "we". A typical pattern of these kinds of shifts is shown in the excerpt below from Text F in the spoken data. The excerpt shows first the lecturer explaining the consequences of an importing ban, messages 496-498, and then the students, Li and See, clarifying how these are represented on the demand and supply diagram,

turn	mess	interactant	
288	496	Eco lecturer	<i>the price will go up continue to go up until these shortages disappear</i>
289	497	students	<i>ooh [collectively]</i>
290	498	Eco lecturer	<i>and you'll only be left you'll only be left with imports</i>
291	499	Li	<i>ooh yes</i>
	500		<i>I know this is er</i>
	501		<i>= yeah</i>
292	502	Eco lecturer	<i>= right</i>
293	503	See	<i>so this one's the shortage?</i>
294	504	Eco lecturer	<i>no no that'll be imports</i>
295	505	Li	<i>that will be = imports</i>
296	506	Eco lecturer	<i>= imports some imports are allowed</i>
297	507	See	<i>oh</i>

excerpt from Text F

The excerpt shows the pattern of continual interweavings that typically occurs throughout the data, ie, between the intersubjective domain *I* and *you* – *I know this*; construal of the economic model – *some imports are allowed*; and, exophoric reference to visual images – *this one's the shortage*. It is argued in this investigation that the data show quite different construals of meaning from the distinct bi-nominal categories frequently described in discussions of classroom talk, ie, between first order commonsense knowledge and language used for second order reflection. Instead, the continual interweavings are akin to those described in naturalistic data by Hasan (1985a,

1992, 1999a, 2001), Hasan & Cloran (1990), Cloran (1994, 1995; 1999a, 1999b; 2006:draft).

Hence, it is the nature and purpose of these apparently ‘peripatetic’ interactions in the spoken data presented here that is of particular interest in this investigation.

Influences of Vygotsky, Halliday and Systemic-Functional Linguistics on relevant research on classroom talk and spoken educational discourse

The influence of Vygotsky over the past four decades in western education is, as noted, reflected in the growth of dialogic classroom talk and ‘scaffolded learning’ as mainstream pedagogical practice in primary, secondary and second language education. Scaffolded learning, informed by social constructivist or neo-Vygotskian approaches to learning and teaching, draws particularly on Vygotsky’s construct of the zone of proximal develop (ZPD). The term, scaffolded learning, was originally conceived by Wood, Bruner and Ross (1976) and is described by Maybin et al., (1992:186) as “temporary, but essential, nature of the mentor’s assistance (for learners to) move towards new skills, concepts or level of understanding”.

Adaptations of ZPD, discussed within the neo-Vygotskian literature, appear to focus primarily on the commonsense–scientific continuum and on interpersonal aspects of mediation. ‘Joint knowledge constructions’ are predicated on descriptions of shifts from particularistic/context-dependent meanings on one axis to universalistic/context-independent meanings. Although the use of ZPD is claimed as the mediation between mentor and learner in the process of the joint construction of knowledge, described by Bruner (1985:155) as ‘knowledge creation’, often appears as the implied consequence of social mediation. Any observations of language use often rely on descriptions rather than any linguistic theoretical analyses.

The following discussion reflects on aspects of dialogic learning which are representative of those studies now influenced by Vygotsky’s theories within social constructivist and neo-Vygotskian frameworks, including ‘scaffolded learning’. However, the relevance of these studies is their use of systemic functional linguistics to

account for the simultaneously interactive nature of spoken language and the construal of meaning. By following Vygotsky and Halliday's seminal observations, ie, that language is our primary semiotic system, this corpus of research has had important influences on this research project. While each study takes a different view of transitions in the co-construction of educational knowledge through dialogue, for the purposes of this discussion the relevant aspect of these studies is the evolution in understanding of the role played by dialogue in student learning. The corpus focuses variously on lexis to illustrate 'mode shifting' across whole curricula to finer distinctions in the dynamic ways that the teacher and students co-construct meanings to build intersemiotic meanings. Importantly, the corpus offers differing and valuable perspectives toward an increasing understanding of the complexities of classroom talk.

The corpus of work can be grouped initially into two broad categories of research. The first category, following Vygotsky, Halliday, Martin and Bernstein, explores students' development of understanding according to the differing semantic bases along a 'macro-curriculum' continuum (Christie, 1989, 1998) and mode continuum (Gibbons, 1999). A particular focus on 'scaffolded learning' is undertaken in this category (Gibbons, 1999).

The second category, following Halliday, Hasan, Bernstein and Lemke, explores language within a broader semiotic framework. Of relevance in this corpus is the recognition that instances of language use are not 'frozen' along a metaphorical cline or in one part of "semiotic space". Instead, this second category corpus provides analytical categories to examine the complex and dynamic interweavings of meaning as characteristic of semiotic mediation in an educational context.

This second category falls into two further groups. In the first group is the work of Hasan (1985a, 1992, 1999a, 2001); Cloran (1994, 1995, 1999a, 1999b, 2006 draft); and Hasan and Cloran (1990) examining evidence of systematic variation in everyday dialogue. The linguistic analysis presented in this group provides much of the analytical framework for this study. This framework will be described in detail in Chapters 5, 6, 7 and 8.

In the second group, O'Halloran (1999, 2000, 2003, 2005) and Royce (1999, 2002) examine more closely the systemic functional linguistic interpretation of language

within an 'intersemiotic' system. The intersemiotic relationships of interest are the meanings construed by the complementarity between verbal texts, symbolism and visual images. In particular, O'Halloran investigates this complementarity in mathematical discourse, which she refers to as 'semiotic metaphor'. In Royce's work, it is the intersemiotic complementarity between visual and verbal modes in economic discourse that is of interest. Royce's (1999) particular focus is on the multimodal economic discourse of the media. In his work, he also makes reference to the usefulness of highlighting to students the complementary relationship between verbal and visual texts in economic educational texts. A greater understanding of the relation between these texts may enrich students' understanding of how the different modes complement each other and may overcome many students' confusions with economic discourse. These studies draw also on Kress and van Leeuwen (1979, 1990, 1996) and O'Toole (1994, 1995) and so provide the field of pedagogical discourse with an enhanced understanding of how educational knowledge is construed, not just by writing, but rather by meanings construed simultaneously in a variety of multimodal representations.

Category One: curriculum macrogenre and mode continua

A study of curriculum macrogenre – a cycle of teaching-learning activity

Within the first category under discussion, Christie's (1989, 1998) interpretation of Martin's (1994, 1995) notion of a macrogenre has provided a foundation for the investigation of talk in the development of student learning across whole curricula. A curriculum macrogenre is described as a cycle of teaching-learning activity that in turn consists of a series of individual genres or lessons (Christie, 1998:154),

NOTE: This figure is included on page 47 of the print copy of the thesis held in the University of Adelaide Library.

Figure 2.1 Curriculum macrogenre: initial view (Christie, 1998:156)

This approach is one that places importance on the spoken-written continuum. A curriculum macrogenre is created as a series of stages, termed a ‘curriculum genre’. These stages are embedded in and reflect the overall structure of a ‘curriculum macrogenre’, as shown in Figure 2.1. As the students gain greater independence and begin to explain their understanding of the subject content, Christie (1998:165-166) reports, the students reach “a new, more abstract stage of understanding. They now have a phenomenon they can discuss... They are ready to move to a new practical activity demonstrating the phenomenon”. Of particular interest is the shift between different kinds of language used within the interactions and across the curricula. Christie (p.154) goes so far as to predict that the interactive nature of the teacher and students working together establishes, in a Vygotskian sense, a *logos* as the text builds in an evercumulative way.

A study of mode continuum: a gauge of ‘experiential distance’

A study in this first category by Gibbons (1999) focuses on the facilitation of learning in primary school science education within a social constructivist and neo-Vygotskian framework. A major intent of the study is to reflect on pedagogical practices so that greater consideration may be given to the use of dialogue in learning for second language students. Gibbons’ analysis concerns the development of students’ understanding as the teacher and students jointly construct meanings. In their joint negotiations, students are guided by the teacher’s gradual recontextualisation from ‘everyday’ language to more formal registers of educational knowledge. In order to trace changes in student learning, Gibbons draws on Martin’s (1984, 1992) notion of ‘mode continuum’ and ‘mode shifting’. Mode continuum, is described as a movement from language which is ancillary and accompanies physical action to language which

constitutes the social process, ie, from language in action to language as reflection. These oppositions are illustrated in Figure 2.2,

NOTE: This image is included on page 48 of the print copy of the thesis held in the University of Adelaide Library.

Figure 2.2 Mode continuum – showing degrees of abstraction (Martin, 1992:520)

In classroom discourse, the notion of mode continuum is often used to describe shifts from more spoken-like discourse to more written-like, and vice versa. The usefulness of the notion is the linguistic framework within which the changes in linguistic features can be examined. Gibbons (1999) exemplifies mode shifting within episodes of the curriculum as occurring,

... where the teachers recast student wording into more registrally appropriate (or more written-like) wording... It also occurs in those contexts where student have simultaneous access to more than one language source. This is the case, for example, when they use their individual written notes to share information orally with a partner, or when the teacher, while responding to students' oral responses, also writes these on the board. A 'reverse' mode shift – from more to less contextualised – also occurs in a situation ... when the teacher refers to the written instructions which the students will later use to carry out an experiment, and at the same time 'explains' the instructions in more familiar everyday language, often accompanied by demonstration...

In this iterative process, the student and teacher are characterised as active participants in 'scaffolded' learning. The following definitions of 'scaffolded' learning which set out the key aspects of the mediation of student learning draw largely from those offered by Gibbons (1999:35-39). These aspects, viz, mediation, appropriation and contingency,

will be revisited throughout the analysis and discussion of the spoken data in this study (see Chapters 5, 7 and 8).

Scaffolded learning

‘Scaffolded learning’, being a metaphor used originally by Wood, Bruner & Ross (1976), is closely related to Vygotsky’s notion of ZPD. The metaphor describes the process of mentoring a student to achieve a goal or task beyond their unassisted efforts and was originally conceived as interactions between adult and child. ‘Scaffolded learning’ has come to be applied to classrooms in which pedagogical practice, within neo-Vygotskian and social constructivist approaches, recognises learning to be a mediated process, primarily involving spoken dialogue between both the teacher and students. Within neo-Vygotskian adaptations of ZPD and scaffolded learning, the quality of mediation is gauged by the level of the students’ competence as a result of the support provided by the teacher. Advocates for scaffolded learning emphasise that the scaffolded support is not rule-bound, instead, it is a transitory contingent process which, according to Cazden (1988:104), “self-destructs gradually as the need lessens and the child’s [student’s] competence grows”.

Three fundamental factors are recognised as contributing to effective scaffolding: mediation, appropriation, and contingency.

Mediation in scaffolded learning: The concept of mediation in neo-Vygotskian approaches encapsulates the role of the teacher as guide or mentor in student learning. The teacher, as mediator, is considered most commonly as the discourse expert – as the possessor of Bakhtin’s notion of historical-social utterance and speech genres. Even so, while language may be acknowledged as the most important mediating sign or symbol, little attention has been given in the literature to realising how mediation occurs linguistically. Instead, greater focus is given to the interpersonal role of the teacher, construed as a ‘go-between’ or the Socratic notion of “gadfly”, in the student’s developing knowledge.

Appropriation in scaffolded learning: As the term implies, appropriation refers to a student’s developing control of “ideas, understandings, attitudes and discourse of those

with whom they share a social and cultural context” (Gibbons, 1999:37). Appropriation centres on the recontextualisation of students’ perceptions. However, again it is the social role of the teacher, and the notion of ‘reciprocal appropriation’ which occupies a deal of the discussion in the literature, rather than any explorations of *semiotic* mediation, albeit references to language use and ‘discourse’. ‘Reciprocal appropriation’, as Gibbons (p.38) explains, is,

... to draw into the discourse aspects of students’ meaning, for the purpose of moving towards their own educational objectives. The discourse which is co-constructed in this way bears ‘traces’ of students’ meanings while in the process of becoming the authoritative discourse of the subject.

Contingency in scaffolded learning: Contingency is explained as fundamental in effective scaffolding. Contingency refers to the quality and responsiveness of the teacher’s intervention enabling students “to take control of their own learning” (Webster et al., 1996:151). Contingent teaching, Gibbons (1999:267) observes, is akin to Halliday’s (1993a:105 qtd in Gibbons) principle of filtering,

Children will attend to text that is ahead of their current semiotic potential, provided it is not too far ahead. They will tackle something that is far enough beyond their reach to be recognised as a challenge, if they have a reasonable chance of succeeding (cf. Vygotsky’s “zone of proximal development”). Whatever is too far beyond their powers of meaning they will simply filter out.

In effect, contingent teaching would, it can be surmised, overcome the possibilities of classroom dialogue being haunted by the spectre of Magistral, Socratic, or worse still, as Cheyne & Tarulli (2002) suggest, the chaos of Menippean dialogue.

Category Two: interplay between verbal and visual modes

Studies in semiotic metaphor and intersemiotic complementarity

The complementary relationship and dynamic interplay between verbal, visual and symbolic modes is explored in this second group by O’Halloran, (1999, 2000, 2003, 2005) and Royce (1999, 2002). As Lemke (p:2 online #1) recognises, educational

knowledge is presented as multimodal displays with the links between the pieces in the multi-modal jig-saw not always fully explained,

Teacher talk and textbook text try to be as explicit and complete as they can, but it is just not in the nature of normal discourse to lay out complete formations. We present them piecemeal, and students must always learn to assemble them from the partial statements they hear and read.

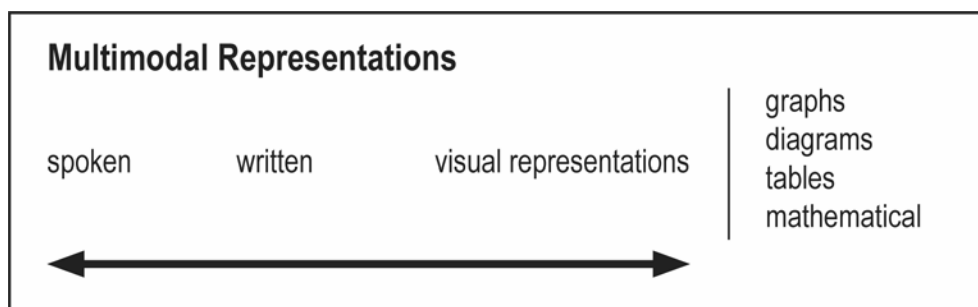


Figure 2.3 Interplay between verbal, visual and symbolic modes

The investigations of the complex nature of mathematics discourse by O'Halloran straddle both categories of studies in dialogic learning set out here. In addition to taking account of mediation and the developmental aspects of student learning, her work, together with Royce's (1999) study of economics discourse, falls into the category of investigations into how different semiotic systems can work together semantically (Halliday and Hasan, 1985). In particular, as noted previously, it is the relationship between the verbal texts and visual graphs in mathematics and economics discourse that is of particular interest in their work. Their work takes account of the Saussurean conception of the sign and Hjelmslevian (1961) notion of language within a broader semiotic framework.

The texture of mathematical pedagogical discourse, O'Halloran (2005) observes, is dense as the teacher and students weave between the different semiotic systems. In particular, her examination of educational discourse probes the rapid switching between the different spoken, written and visual modes in the teacher-student interactions. The shifts in mathematic discourse are likely, O'Halloran claims, to be from a linguistic entity to a visual entity, for example from '*to measure*' to '*x*'. O'Halloran (p.268) calls the linguistic reconstrual of that entity a "semiotic metaphor" (p.268). It is the constant

reconfigurations and the high incidence of resulting metaphor which, she acknowledges, increases the difficulty of tracking participants. However, this complexity typically remains unnoticed, O'Halloran (2000) argues, and may account for learning difficulties in mathematics.

The multisemiotic aspects of economic discourse are similarly examined by Royce (1999) whereby the visual and verbal modes were found to complement each other semantically. This complex relationship produces a textual phenomenon which Royce refers to as 'intersemiotic complementarity'. His analysis of the intersemiotic relationship between the verbal and visual modes in economic texts addresses, in part, the lack of rigorous treatment of the role of page-based multimodal texts in economics education where multimodal texts predominate. Royce's work is further discussed in Chapter 3 (see *The role of visual diagrams in academic economic discourse*).

Perspectives on reforms to pedagogical practice in Australian university education

Any reforms undertaken to pedagogical practice in Australian university curricula, as noted in Chapter 1, typically aim at overcoming traditional objectivist approaches. Criticisms of objectivist approaches, referred to also as the transmission approach, focus on ideas that a student's intellect is a replicator of what is. In advocating more social constructivist approaches in university pedagogy, Biggs (1996:348) compares objectivist and constructivist models,

An objectivist theory of teaching and learning rests on an assumed dualism between the knower and the known; hence, knowledge exists somewhere independent of the knower, and understanding is coming to know what already exists. Teaching is the transmission of this knowledge which is decontextualised by testing it independent of particular settings. In contrast, a constructivist view of learning emphasises the learner's role as a maker of meanings. The knowledge or meaning is not 'out there' to be imposed by reality and transmitted by the teacher.

Among the reasons for the continued preferences for more objectivist or transmission approaches in university practice is a belief that many academic disciplines exist as

objective theory and are therefore more suited to univocal transmission models. Often, the status of discipline canon equates with the Bakhtinian concept of 'authoritative discourse', ie, a canonical discourse which is considered beyond the need to negotiate any inherent meaning. This situation persists despite calls for graduates to have attained significant skills in 'critical thinking', 'decision making' and 'interpersonal communication'.

Recent reforms to curricula away from objectivist approaches with the lecturer as the transmitter of objective theory toward Piagetian-influenced 'student centred learning' implies a more conducive learning environment for students new to Australian university education. Yet, curricula favouring Piagetian personal constructivist methodologies can continue to place many second language students at risk of unwittingly breaching 'academic integrity'. 'Student centred learning' exhorts more interactive engagement for the student in the classroom or tutorial; it places the onus of responsibility entirely on the student for their academic performance. In these Piagetian scenarios, more 'interactive classrooms' suggest that students are to interact more with comparatively limited attention given to the role of the academic as mediator, beyond being the facilitator and the traditional role as assessor.

While government and university studies (see Dobson et al., 1998) report that international student performance in higher education in Australia is comparable with or outperforms Australian students, academic journals and media express different views. Indeed in recent times, alarm has been expressed over issues concerning plagiarism, particularly incidences involving second language international students. These concerns are frequently attributed to laziness and poor attention to academic conventions or impoverished levels of English. However, as Hasan (1986b:19) points out, academic knowledge involves more than accurate language constituents,

What the teacher describes as 'does not cotton on to' has very little to do with errors in operations on the form of language; if anything, it is drawing attention to the fact that the student is not able to see the rationale for the organization of meanings, he is not able to grasp the principles along which facts are arranged in a hierarchy of relevance.

Despite calls for more ‘active’ engagement on the part of students, university education continues to be characterised as teleological, ie, heading toward a pre-ordained end. Transitions in the learning process are rarely the focus of curricula, nor is the role of language. Indeed, it is frequently an educational environment that is overwhelmingly intolerant of student difficulties in their attempts to acquire complex concepts and information; a degree program is a kind of passage with the primary focus on the outcome. This is particularly so given the formal role that assessment plays.

Learning scenarios, however, which are tolerant of the difficulties that many students encounter can generate a heightened appreciation by students of the complex meanings they need to acquire. These difficulties are a normal state of *liminality* (from Latin *limen*, *boundary* or *threshold*), according to Meyer and Land (2005:375-378). In this sense, the difficulties, Lather (1998:491&497) argues, can generate a *praxis* effect in students’ learning. Rather than a Magistral relationship between lecturer and students, the learning environment needs to tolerate a *praxis* of not being so sure. In this kind of tolerant learning environment, the students are then able to encounter and explore uncertainties, hesitations, repetitions, and discrepancies.

Indeed, a state of liminality can also be characterised by a period mimicry. Mimicry is not seen by Meyer and Land (ibid) as intentional copying, reproducing information or as any desire to plagiarise. Rather, mimicry is considered to be an attempt by students to understand and overcome their limited understanding. Mimicry, from Vygotskian and Bakhtinian perspectives, could be argued to be a natural transition for students from their intermental to intramental understanding as they acquire “the echoes and reverberations” of historical public discourses, particularly those considered to be unnegotiable authoritative discourses.

An educational environment that tolerates students’ uncertainties in the process of learning complex concepts therefore enables collaborative explorations of meaning. An interesting benchmark for collaborative dialogic learning in a university context is that offered to the “well-smoked student” in the Oxford Tutorial system. Oxford Tutorials have been hailed as ‘a pedagogical gem’ for elite university education for the past century. In the traditional scenario, enveloped in the tutor’s pipe smoke, students have been able to clarify confusions, reflect on complex meanings with the tutor, and

consider where their research is heading. The central tenet is an intense scaffolding of students' understanding. While well beyond the resources of all but two English-speaking universities (Oxford and Cambridge—even these are threatened with change), it is of interest here to review comments by Mash (2001) in relation to the role of interaction in the learning process in this tutorial system,

... a good tutorial is that virtually all of it can be 'questions and answers' or discussion based. This means that the learning becomes 'active', in the sense that the student is much more involved than a passive note-taker ... Tutorials of this kind are also excellent preparation for classes which require active participation by at least most those present to be effective.

Similarly, Mash (*ibid*) explains the usefulness of this 'personalised teaching system' in developing an understanding of economics,

Firstly, understanding economics is very much a cumulative process both across different areas of the subject and over time as the material becomes more complex. Hence there are sizeable knock-on benefits from getting core, early material well sorted out, or put another way there are very large costs to someone losing touch with the subject and staying that way as would be more likely in a less personalised teaching system.

Even minimal adaptations of such an approach are commonly dismissed by educational decision-makers as too resource-hungry in the current system of mass education. Such a personalised teaching system is considered more suited to primary and secondary classrooms. Indeed, the transitions in students' acquisition of knowledge and interpersonal relations are frequently ignored in university curricula. The view persists that the development of knowledge is dissociated from interpersonal considerations. However, any development of understanding which cannot be mediated and validated with others, Hasan (1999:290) claims, is of little consequence,

The universe *with* which and *in* which we live and act is that which is inter-subjectively objective. And this inter-subjectively objective universe is defined by, grows out of, the [reflection based] verbal actions of the human race ...

Hence, the application of Vygotskian notions involving semiotic and social mediation in a university context, as in this case study, recognises that guiding second language international students in their understanding of complex concepts relies on an Oxford Tutorial ‘personalised learning and teaching system’ involving the co-constructions of meaning between students as mentees and the lecturer as mentor. Even so, the learning environment also needs to anticipate and tolerate students’ difficulties; not all mediation produces homogeneous responses in terms of higher mental functioning - mere contact and interaction, as Bakhtin argued, will not necessarily lead to *communio* or *logos*.

Perspectives on social constructivist pedagogical practice in a university degree program using Bernstein’s theory of *code*

The purpose of invoking Bernstein’s (1971, 1975, 1990, 2000) theory of *code* here is twofold. First, Bernstein’s theory offers a critical perspective on the impact of social constructivist pedagogical practice on traditional practice in university education. Second, it is these impacts, elaborated in his concept of pedagogic discourse, that will be examined linguistically in the analysis of the spoken data in Chapters 7 and 8.

The relationship between Vygotsky and Bernstein’s work, and Halliday’s functional linguistics, is the close attention given by all, as Hasan (2002b:9) acknowledges, to the primacy of semiotic mediation in students’ interactions. The significance of Bernstein’s contribution concerns the sociology of pedagogy, in particular, his theory of pedagogical code theory. Crucial within this theory are the notions of power and control of *what* is to be reproduced in education and *how* it is transmitted (Bernstein, 1990:33). From Bernstein’s perspective, the effective mediation of meaning in pedagogic practice requires an analysis of both the content of the curriculum and the regulation of the transmission of the discipline discourse.

The concept of code, and therefore semiotic mediation, is defined by Bernstein (1990:3&13-14) as a regulative principle which positions students to dominant and dominated forms of discourse which in turn unconsciously shape their dispositions, identities and practices. Unlike Vygotsky, Bernstein’s code theory is concerned with, Hasan (2002b:12) contends, the invisible processes of semiotic mediation. Though not using the label itself, Bernstein (1971:144) acknowledged even in his early work the mediational role of language,

...every time the child speaks or listens, the social structure is reinforced in him and his social identity shaped. The social structure becomes the child's psychological reality through the shaping of his acts of speech.

For Bernstein, mediation in pedagogical practice, however, is not a homogenous experience for all students. As Hasan (2000b:12) explains,

What kind of contexts will act as the site for the production of what kind of content by semiotic mediation becomes a question of who the speaker and the addressees are ... and what is the pattern of their participation in the classification and framing of [pedagogical] practices.

The reference to *classification* here in Bernstein's theory relates to *what* is being transmitted in relation to how differently specialised and insulated each discourse is able to become; the reference to *framing* relates to *how* meanings are regulated within the discourse in the process of transmission.

Significant to this study is Bernstein's concept of pedagogical discourse. Pedagogical discourse is constituted primarily by the instructional discourse and the regulative discourse. The instructional discourse is a discourse of competence, that is, it concerns the classificatory principle of the discipline, the *what* it is that is being transmitted; the regulative discourse imparts the dominant values of society, its moral order, and regulates the form of *how* meanings are construed. The use of pedagogic discourse by the interactants in the process of semiotic mediation, according to Bernstein's notions, will be a focus of the linguistic analysis undertaken in Chapters 7 and 8.

Classification, more specifically, concerns the relationships between discourses, eg, between different subject areas in education. The strength of the classification of a particular discourse, Bernstein (2000:7) explains, depends on the 'space' in which the discourse is able to develop its own identity, its own internal rules and special voice. The strong classification of disciplines in university education, where knowledge systems are strongly compartmentalised, means economics, for example, remains a singular vertical discourse; it is a discourse concerned with itself with little external references.

Hence, the *what* that is mediated in economics reflects the strong insulation and classification of the discipline-it has its own specialised rules of internal relations and strong grammar.

Framing concerns who controls what. A frame is strong where the transmitter, or lecturer, has explicit control over how the discourse is presented. Where classification and framing are both strong, the pedagogic practices are visible both to the teacher or lecturer and to the students (2000:109); the hierarchical relations between lecturer and students and the rules of organisation in terms of sequencing and pacing are made explicit and visible to students. In such scenarios, mediation and students' engagement in their processes of learning are highly restricted.

Hence, 'visible pedagogies', characterised by strong classification and framing, appear in the pedagogical practices undertaken in objectivist pedagogical practice in most Australian universities. For example, high enrolments of students in first year economics as a service subject frequently mean any transmission of knowledge is largely by way of monologic didactic lectures with the assessment of students' learning undertaken by multiple-choice questions. In such an approach, students have little control over what or how the curriculum is presented, or, indeed, opportunities to participate in any formalised collaborative explorations of meaning.

Conversely, the implementation of a new curriculum involving extensive dialogue and collaboration between the lecturer and students can be seen in Bernstein's terms as attempts to weaken the strong classification and framing in more traditional objectivist approaches. Such practices, he (1990:91) acknowledges, are more typical of primary education, disadvantaged social groups or times of 'economic buoyancy'. In such 'progressive' and invisible practices - where classification and framing are weak - the student has greater participation in the mediation of meaning. Bernstein's notion of weak classification and framing illustrates a fundamental aim of Vygotsky's social mediation and dialogic learning, ie, intellectual growth is contingent on mediation with a mentor. However, the hierarchical rules are implicit and not so clearly known to the students. Indeed, the rules for recognising the context and how the requisite activity should be carried out can be confounding, particularly for students for whom the context is new, as in this case study.

Therefore, by offering third year university students a social constructivist curriculum in economics in which dialogic learning is a key learning and teaching strategy, the students may well encounter, Bernstein warns, a further challenge manifest in disorder, confusion, incoherence and pressure to perform. As a discourse is recontextualised, as Bernstein (2000:33) explains, it is not the same anymore. Here, Bernstein is referring to the recontextualising of professional discourses into a new pedagogical discourse. A pedagogical discourse selectively appropriates, relocates, refocuses and relates other discourses to constitute its own order. This order can be further transformed when the discourse is extensively mediated, say, within tutorial dialogues where both the classification and framing are weak. In such a process, the students meet the realities of the discourse. As Bernstein acknowledges, they “will become aware that the mystery of discourse is not order, but disorder, incoherence, the possibility of the unthinkable” (2000:11). While students are more actively engaged in the process of their learning, weaker framing can also become “trying for the acquirer as he or she struggles to be creative, to be interactive, to attempt to make his or her own mark” (p.13) on the basis that pedagogical practice has become invisible.

Hence, Bernstein’s work on code and pedagogical discourse encapsulates further the contrasts and potential dichotomies between reform social constructivist curriculum and traditional objectivist approaches in Australian university education. Bernstein (1990:91) acknowledges, however, any reform toward social constructivist curricula in universities extends beyond the educational sphere. Such reforms go so far as being politically unpopular on the basis of their economic burden on the public purse. More socially constructivist interactive and “progressive” educational approaches require far more resources than traditional didactic-style pedagogic practice. The economic implications of introducing such a reform in learning and teaching practice in university education will be revisited in Chapter 9 in the reflections on the case study presented here.

Summary and prospective

Interest in the role of language in the mediation of student learning is the common thread between the evolving perspectives of dialogic learning as reported on in research in more junior education, as outlined in this chapter. This interest is based on the principle that learning needs to be guided through instruction. It was seen that a central argument in support of dialogic learning contends that our understanding of educational meanings is not readily accessible other than through negotiation and mediation with our teachers and peers. In this view, the fundamental tool for learning is considered to be language. Our cognitive development is shaped by our language in use.

Important in this study, is the nexus offered by systemic functional linguistics in analysing the association in Vygotsky's framework between mediation and higher mental functioning and Bakhtin's ideas of historical and authoritative discourses. It was reported that in exploring these, Halliday, with colleagues, has extended an understanding of language beyond Vygotsky's notion of 'the word' and Bakhtin's notion of 'utterance' to a complex semiotic system.

In the application of these ideas and resources, despite differing theoretical frameworks, the common finding in the literature is the success of dialogue for learners in their negotiation and understanding of educational knowledge. How this is achieved is differently posed by different interpretations. Much of the literature takes as its focus the social aspects of mediation, ie, the interpersonal interactions between the teacher and students and neglects any substantial exploration of language use and language system and semiotic mediation. The importance of examining language as a social semiotic system recognises the role of language as dialogue in the construal of meaning. However, to also consider dialogic negotiations as a linear passage or as frozen along a continuum ignores the realities of learning as a complex dynamic process.

The discussion so far has suggested that the student cohort in this study had quite different experiences of learning dialogically. The following chapters set out to investigate possible reasons. Chapter 3 following will describe the economic curriculum which aimed to assist the second language cohort with such challenges. It will then discuss the history and focus of written economic discourse in order to understand the

challenges faced by many second language students undertaking economics as a service subject in university education.

Chapter 3

Methodology and the nature of economic discourse in university undergraduate degree programs

Introduction

As indicated in Chapters 1 and 2, this thesis is a case study of the application of dialogic learning involving second language international students in an Australian university. It was outlined in Chapter 1 that an important contribution of the thesis lies in extending the research in dialogic learning and classroom talk, beyond exemplary interactions, to an identification of some of the academic challenges facing this student cohort in university education, using linguistic analysis. The study offers a unique ‘arthroscopic’ view of the students’ learning experiences, from a linguistic perspective, in their first semester at an Australian university.

Section 1 of this chapter outlines the methodology that shapes the research and the procedures involved in collecting and transcribing the data. This section also discusses the rationale for the introduction of dialogic learning based on the findings from an earlier trial study in a statistics subject for second language university students. The Business Communication Program curriculum, the economics module and the students’ particular assignment task are then described.

In preparation for the analysis of the spoken data at the semantic and lexicogrammatical levels in following chapters, the criteria for determining each text in the data as well as the interactional patterns of the tutorial discussion are described. The criteria are broadly determined by the presence or absence of the economic lecturer during the discussion, then by initiating moves, such as repairs to explanations or a student question focussing on a new aspect of the assignment. The interactional patterns were revealed by studying the frequency of each speaker’s turns.

In Section 2, the discussion turns to the nature of economic discourse as an academic discipline by identifying the socio-historical perspectives. The discussion takes account

of the challenges facing academic colleagues in economics regarding the relevance of teaching arcane *a priori* principles of economic theory to students taking economics as a service subject within business degree programs. These challenges are reflected in the kinds of pressures placed on universities by external stakeholders, as mentioned in Chapters 1 and 2, and the needs of the changing demographic of the student population, in particular, second language students enrolled in business degree programs. The chapter concludes with a discussion of the seemingly complex roles conferred on Marshall's demand and supply diagram in academic economics, and begins an examination of its role in the spoken data.

Section 1 The research project

Background to the research

The decision to establish the Business Communication Program (BCP) was fundamentally a financial one in the first instance and educational in the second. The students in the program had undertaken the first two years of their studies at a private tertiary institute in Malaysia. The arrangements between off-shore institutions and Australian universities, referred to as 'twinning programs', ensure Australian universities of a secure funding source from international student enrolments. For the off-shore educational institution, which is often part of a private business enterprise, these arrangements offer a valuable marketing strategy for attracting local students in the form of a foreign degree that often holds greater status than local degree qualifications.

While statistics on international students enrolled in twinning programs at Australian universities are not readily available, government statistics report that business faculties in Australian universities receive the highest intake by far of international students. In 2004, 46,821 international students enrolled in Management and Commerce courses. Of these, 25,202 students were enrolled in undergraduate degree courses in Management and Commerce (DEST, 2005). These enrolments far exceed the next highest enrolments of 14,936 international students in Information Technology courses (DEST, 2005). Hence, the aim of educational programs for international students, such as the BCP, is to ensure that these market-oriented educational arrangements are

successful by providing the arriving cohort with intensive language and academic support as they ease into their new educational environment. Any failures or difficulties experienced by the students would reflect negatively on such enterprises.

The curriculum for the BCP was similar in many respects to the other accredited communication skills programs I had developed and taught to assist second language students in their transition into university. The programs involved mathematics, statistics and engineering. A significant difference in the BCP was the extensive collaboration between myself as language specialist and the discipline specialists in both the design of the curriculum and in the teaching of each subject. The disciplines or subjects represented in the BCP curriculum were those deemed most difficult for students, being the compulsory subjects of economics, accounting, as well as law. Each subject constituted a module in the program. Primarily, the role of the discipline specialist in the delivery of their module was to provide an introductory lecture, intended as revision of key theoretical principles; specialist support for students during the tutorial discussions; and, the assessment of written assignments and seminar presentations. Each module of the BCP was conducted over a four week period and focussed on typical problems all students encounter in each subject. The problems were identified in initial consultations with the dean of the faculty and confirmed in the collaborations with the discipline specialists. In economics, a primary difficulty for all students was identified to be the integration of diagrams into their written assignments as ‘evidence’ for economic theory and models.

The challenges of teaching economics to business degree students, even as revision, will be discussed later in this chapter. These challenges will be reviewed in light of the difficulties identified in relation to the BCP and also with respect to the discussions in the literature (Lucas, Krueger and Blank, 2002; Knoedler and Underwood, 2003; Barrett, 2005) which call for a significantly different focus in business and management curricula than the neoclassical focus that currently dominates the curricula of economics as a service subject. Rather than teaching business and management students about economic theory, a more relevant focus is one that demonstrates how actual economies operate.

Rationale for the introduction of dialogic learning into a university curriculum

As described in Chapter 1, findings from a trial study in the statistics subject motivated this more extensive examination of tutorial talk in economics. Small group discussions had been introduced into the statistics tutorials to help students overcome difficulties in recognising the relationship between verbal texts, symbolism and visual images. For many of the students, who were studying statistics for the first time, the discussions were an intended remedy against copying model texts.

This earlier study in statistics drew on relevant literature in mathematics education, in particular Boomer (1986) and Rosenthal (1995), who advocate innovative ways for mathematics students to become more critically engaged in their studies in preparation for their post-academic careers. In mathematics classrooms, Boomer (p.5) claims, catechistic teaching, characterised by the teacher asking rhetorical questions, results in many students suffering “from instructional overkill, a kind of drug dependence on teachers telling them”. If students are to understand difficult abstract concepts they need to ask questions of the expert teacher and use everyday language to find suitable equivalents. A revitalised mathematics classroom for Boomer (pp.5-6) is one in which students are able to discuss solutions and formulate theories and so begin to discover and speculate about information and ideas.

Similarly, Rosenthal (p.224) recognises interactive student activities in mathematics classrooms as valuable learning methodologies,

Students are better able to learn and retain concepts when they are actively involved; students can learn from each other, and can learn from teaching each other; (and) students can get practice working and communicating with others (an essential skill in many job settings) ...

The spoken data from the statistics trial study show an increasing understanding of the ‘intersemiotic’ relationship between the physical activities of the experiment, the results of the experiment and the display of results symbolically in the graphs. The following excerpt shows how student Huong, with guidance from the lecturer, is beginning to

interpret the symbolic meaning of the graph in relation to the activities that took place during her experiment,

Huong	<i>ah the token was pushed over the line um beyond the line</i>
Lecturer	<i>why why do you think it was pushed way beyond the line?</i>
Huong	<i>because it pushed too strong</i>
Lecturer	<i>can you see it on here? this is it's that one isn't it?</i>
Huong	<i>so what was happening do you think?</i>
Lecturer	<i>looks like the person improved like they they push it like um close to the line</i>
Huong	<i>yeah they actually got it close there and then they got it over and then it fell back</i>
Lecturer	<i>yeah they were trying to keep the force constant</i>
Huong	<i>the first time like when they push it too far they push it a bit further</i>

excerpt from trial study of dialogic learning in statistics: explaining symbolic meaning of elements on a runchart

In a later excerpt, shown below, Huong begins to recognise the relationship between the technical lexis ‘amplitude’ and ‘fluctuation’ and their more mundane equivalents in a runchart¹ “up and down”. The excerpt shows how these increments in Huong’s understanding are assisted with scaffolded support from the lecturer and a classmate. The support from classmates equates with van Lier’s (1996) findings that effective scaffolded support is often provided by class peers,

Huong	<i>compare two run charts</i>
Lecturer	<i>and I think it's about the same</i>
Huong	<i>you see</i>
Lecturer	<i>it's the the of the fluct fluct</i>
Huong	<i>the fluctuations</i>
Lecturer	<i>fluctuations is just about the same</i>
Huong	<i>it's like up and down, up and down all the time</i>
Lecturer	<i>what about amplitudes between them?</i>
Huong	<i>is this one?</i>
Classmate	<i>yeah that's one</i>

excerpt from trial study of dialogic learning in statistics: shifting between congruent and technical lexis

¹ runcharts, also called timecharts, plot results of experiments over time. The plotting of the results appear across the chart as a series of zig zag lines. The zig-zags are referred to in the field of statistics as “fluctuations”. The distance between each peak along a single line is referred to as an “amplitude”.

A diagnostic written assessment task undertaken by students at the outset of the statistics program revealed quite impoverished background understanding of statistics among some students. This is unsurprising, for many students, such as Huong, this was their first semester studying in the subject. On her diagnostic writing task, Huong had written,

I don't understand

Around four weeks later, Huong's written assignment suggests an increased understanding of statistical lexis. The following excerpt shows her increased capability to accurately describe the symbolic representation of results shown on the runchart,

In the machine method there are some fluctuations and most of them have low amplitude while a few of them have very high ones. The fluctuations have a regular trend.

Thus, this longer study in economics began with an expectation that similar increments in understanding would be evident throughout the students' discussions. However, access to the longer transcripts of spoken interactions in the BCP tutorials showed the obvious difficulties experienced by the students with economics. These could not be ignored, particularly as the guidance and mediation provided to them were intended to be developmental. By acknowledging that the discourse of economics had been problematic for the students, I then revised the aim of this research project. It was then that the students' strategies to understand their assignment task became the focus of this study.

I experienced a conflict familiar to many researchers, identified by Edwards & Furlong (1978), being, the need to let go of any preconceptions about anticipated findings. Indeed, the students' difficulties offered unique opportunities not only to reconsider their experiences with the economics module, but also to re-examine assumptions I had

made in relation to the design of the economics module, the assumptions I had made regarding the students' background knowledge of economic theory and principles, and also my taken-for-granted assumptions about the students' future professional needs in relation to how educational economics is taught.

Approach to the research: shifting from an intended longitudinal study to an in-depth view of dialogic learning as a case study

Once transcribed, preliminary observations of the spoken data indicated marked differences between the students' interactions in the economics module compared, for example, with the accounting module in the same program, also with the engineering communication program, and with the trial study undertaken in statistics. While the economics module was presented first in the curriculum, ie, in the first few weeks of the students' arrival in Australia, the contrasts were significant enough to warrant closer examination. The differences, shown in the excerpts below, are apparent in the kinds of exchanges between the students throughout the discussions. In the accounting discussions, the students' exchanges are characterised by relatively long turns, for example,

<p>Cin See Cin See Cin</p>	<p><i>the best one I think is the second one but but the capital is not enough for her then you choose == the other one == that's that's that's == the problem == the first in my opinion is the second == one == your first choice I changed my choice already between the first and third one like I choose the third one although the return is low but you make it stable stable at least you get stable stable money from the ah bonds right and then just now what [the lecturer] said you can redeem um at any time</i></p>
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excerpt from a BCP accounting discussion

In contrast, the discussions by the same cohort in economics are overwhelmingly brief exchanges, for example,

See	<i>actually OK nononot actually maybe a case maybe um it should be um eh tax on um</i>
Li	<i>not not tax</i>
Cin	<i>not tax</i>
Tiff	<i>no tax involved</i>
Ken	<i>no tax involved</i>
See	<i>no tax involved?</i>
Tiff	<i>oh yah tax is tariff</i>
Ken	<i>is it?</i>

excerpt from BCP economics discussion Text 2

It could be argued the students' more adept contributions in the accounting module may have been due to the following factors: greater familiarity with the discussion format 3 or 4 weeks later on in the semester; also a greater ease in communicating with class colleagues; a more developed understanding of accounting on the basis that it was a major subject for most students; an increased use of English in the intervening three weeks; and that the curriculum of the accounting module was designed in response to the students' future professional needs. The data, however, could not reveal these factors alone.

The most interesting aspect of all was that the data presented an entirely different yet authentic insight into dialogic learning – an insight closer to Bakhtin's acknowledgement that dialogic interactions may never reach *logos*, or even consensus. Therefore, the aim of the research became an examination of the possible reasons for the students' difficulties in economics and how they were able to negotiate their apparent confusions dialogically, if at all.

An ethnographic enquiry within a university context

By abandoning preconceptions about the outcomes of the tutorial discussions and adopting a 'see what the data reveals' approach, the research methodology I undertook became more consistent with an ethnographic enquiry. Three principles are frequently cited (Cohen, Manion and Morrison, 2000; Edwards & Furlong, 1978; van Lier, 1996; Hammond, 1995) to characterise an ethnographic methodology:

- i. it is 'holistic' in that researchers need to understand the total environment or context so as to understand the data;
- ii. at the more micro- level focus or fine grained emic viewpoint, it involves the researcher as a participant-observer becoming familiar with the complex scene being studied;
- iii. it is concerned with 'live' or naturalistic data.

Therefore the decision to undertake this in-depth examination as a case study was in consideration of many factors. A major focus, as noted, was an interest in gaining a "fine-grained emic viewpoint" of the learning experiences of second language students in Australian university education. Delamont and Hamilton (1986:36) describe the framework within which an ethnographic enquiry takes place as,

The ethnographer uses a holistic framework. He accepts as given the complex scene he encounters ... He makes no attempt to manipulate, control or eliminate variables ... He reduces the breadth of enquiry systematically to give more concentrated attention to the emerging issues. Starting with a wide angle of vision, he 'zooms' in and progressively focuses on those classroom features he considers to be most salient. Thus, ethnographic research clearly dissociates itself from the *a priori* reductionism ... In a very real sense, then, it operates with an open and 'unfinished' methodology.

Case studies, however, are criticised for being concerned only with single events. According to Walker (1983:163), case studies "crytallise and embalm situations in schools" and are limited by not being generalisable to other situations,

Once fixed, the case-study changes little, but the situations and the people caught in it have moved even before the image is available.

On the other hand, Delamont and Hamilton (1986) argue that observational studies, such as case-studies, *can* be generalised to other settings,

Despite their diversity, individual classrooms share many characteristics. Through the detailed study of one particular context it is still possible to clarify relationships, pinpoint critical processes and identify common phenomena ... which may, upon further investigation, be found to be germane to a wider variety of settings.

While the case study undertaken here shares many of the principles outlined in descriptions of an ethnographic approach, the study is not intended to be a kind of reportage in which the researcher takes a neutral stance in their account of the research findings, as described by van Manen (1990a & 1990b). By contrast, the implications arising from the findings of this study are an important aspect of this research. It is the implications of the students' experiences in university education that contribute to the significance of the study. The research, therefore, also draws to an extent on the principles of critical ethnography and the notion of *praxis*, which in education is premised on effecting change to existing taken-for-granted teaching practices.

To explain *praxis*, Crotty (1998) cites Paolo Freire (1972:28), who saw *praxis* as “reflection and action upon the world in order to transform it”. While it is beyond the purpose of this thesis to enact reflection and action together, as in an ideal critical theoretical approach, the purpose of the research is to alert university educators and administrators, to a greater extent than currently exists, to particular learning difficulties experienced by second language international students, comprising largely Asian students in Australian universities. These difficulties extend beyond the obvious language or cultural dissimilarities and have to do with taken-for-granted assumptions by educators that all students share common background knowledge of arcane authoritative canon.

To a small extent, *praxis* has already occurred as a result of this study in the form of revisions made to the BCP in collaboration with faculty colleagues.

Nature of the data

Tape recordings were made of all the small groups of students in their discussions of assignment tasks during the first five weeks of the BCP. As the program progressed, the number of recordings was reduced to three groups once I had identified target cohorts. Fewer recordings helped to make sure the quality of the recordings was as optimal as possible, considering the noise of the classroom and initially the difficulties I had understanding some students' heavily accented use of English. As noted in Chapter 1,

the decision to focus on one particular tutorial session in the economics module was based on two basic criteria. These were the good quality of the recording and its ability to capture the extent of the students' dogged attempts to overcome their confusions and to negotiate meanings in the assignment task.

The participation of the economics lecturer who had had many years experience teaching economics in high schools was considerable in all aspects of the curriculum, most particularly in the tutorial discussions. My role during the tutorials was managerial rather than academic. My managerial tasks included setting up the tape recorders, allocating students into groups, time-keeping etc.

Students and each discipline lecturer were told the function of the tape recorders. The presence of the recorders seemed to have only a small impact on the students' participation and only in the first two weeks of the program. If the discussion waned or students needed to read information or were stumped, most students turned off the tape recorders. Most students were diligent about turning the recorder back on once their discussion recommenced, and each group took responsibility for turning over the tape at the appropriate time. Turning tapes off during silences ceased after the first couple of weeks of recording.

Individual student's self consciousness about being recorded varied in the first two sessions. In the following excerpt, from the first economics tutorial discussion, See 'dobs in' Li after she imitates an instruction I had given to the class,

See what did she say?
Li udahdahdah
[students laugh]
See [intro tape] it's Li, OK

Initially I wondered if the students' doggedness in attempting to solve their confusions was due largely to being taped, and so they felt they should appear diligent. In the first few weeks I had no control or means of comparison as I had begun taping from the first discussion tutorial. However, as I reduced the number of recordings to three groups, students in non-recorded groups were equally involved in their discussion tasks.

Ethics of the research

As noted previously, students and the collaborating lecturers were informed as to the purpose of the recordings made during each tutorial session. The students voluntarily signed a form of consent for their work to be used for this research. The Dean of the faculty granted me written permission to carry out the research.

The discipline lecturers have provided valuable comments on issues arising from the research. The original aim of the research was not intended to focus so microscopically on their teaching practices, however the lecturers have been receptive to the findings and have agreed readily to subsequent revisions to the curriculum as a result of the research.

All students involved in the recordings have now graduated and returned to their home country. Pseudonyms in the transcript, however, have been used to protect their identity.

Dramatis Personae

The student cohort comprised five students, four female and one male student:

Cin

Majored in accounting. Although her use of English was characterized by many inaccuracies, she participated eagerly and initiated many exchanges. Her interpretation of information was overall quite accurate, yet she frequently deferred to others' opinions, particularly to the male student See. Her initial deference to See however changed over the semester. Friends with Li, Tiff and Ken and was a central influence in the large clique of women students.

See

Majored in marketing. The only male student in this cohort. Confident in use of English from the outset of the program. Dominated all discussions, and maintained a constant interest in the discussion tasks, until the last phase of the discussion. He held status

among the student group and often censored the large clique of women students when they were noisy.

Li

Majored in accounting. Confident use of English from the outset. Together with See, she was equally dominant in all discussions. Often attempted to interpret discipline theory and draw on other theoretical information to overcome confusions. Vivacious with a quick and cheeky wit, she was a dominant personality in the program and among the clique of women students.

Tiff

Majored in accounting. Quite confident use of English from the outset. She participated effectively without taking a dominant role, and frequently posed key questions. Was a friend of Cin and Li, and part of the large clique of women students.

Ken

Majored in accounting. Good knowledge of English, yet she did not participate in group discussions beyond two or three questions in the target discussion. Reasons for reticence not known as she was not shy or unsure, she gave competent seminar presentations. Friends with Li and was part of the clique of women.

The Business Communication Program curriculum

The primary aims of the BCP curriculum were adapted from the university's manifesto of generic graduate attributes. Principally, these were to guide students' development of their skills *to interpret and critically assess discipline theory* and *to effectively communicate their decisions in relation to their assignment tasks*.

These aims related to each of the three modules of the BCP curriculum: economics, accounting and law. Each module was conducted over a four week period and focussed on typical problems all students encounter in each subject, identified by the Dean of the faculty, and confirmed in subsequent collaborative work with the discipline lecturers.

The curriculum was written before the students arrived in Australia. One of the early revisions to the curriculum was to replace the law module with an Australian current affairs module, as none of the students was studying law. Several students made this request in the first student evaluation of the program. Economics was a compulsory subject within the students' degree program.

The curriculum adapted and extended features of Christie's (1989, 1998) interpretation of Martin's (1994b, 1995) notion of a macrogenre being a cycle of teaching-learning activity, referred to in this curriculum as a module. Each module was designed to incorporate three stages, as shown in Figure 3.1 below. It is the final discussion session in the economics module which provides the spoken data for this study. This coincided with the fifth week of the students' study in Australia.

Target discussion in the economics module:

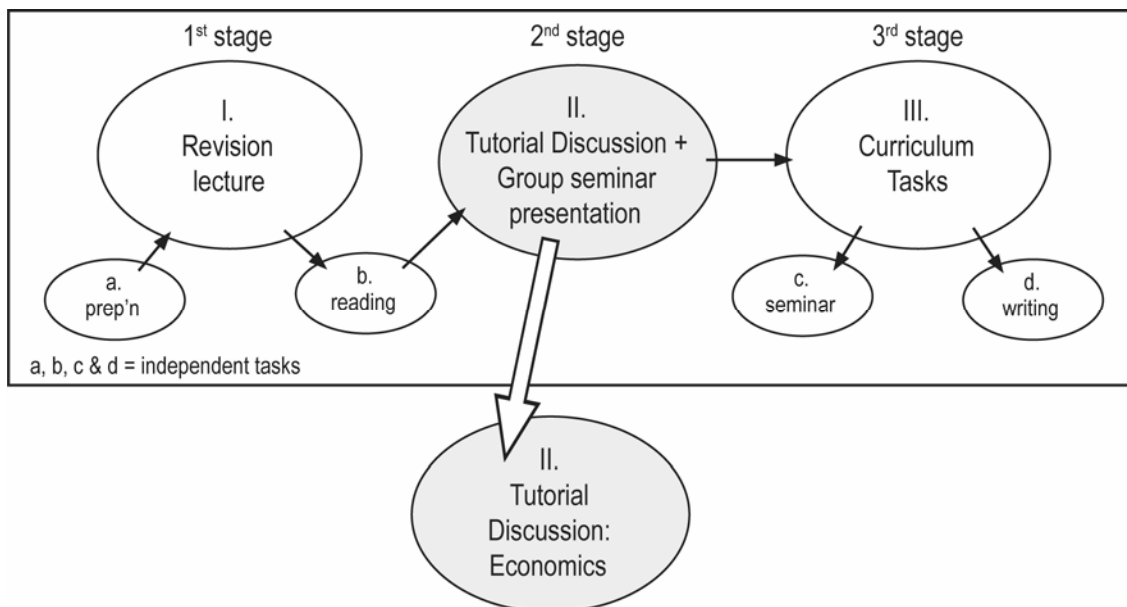


Figure 3.1 Curriculum Cycle for the Business Communication Program (after Christie, 1998)

In preparation for each cycle of each module of the BCP, a real-world scenario was presented in a preparatory tutorial. From the scenario, the content shifted toward more theoretical principles of the discipline presented initially in the first lecture and then within different activities in each of the three stages of the module. For example, in the module under investigation here, the preparation began with authentic video-taped

interviews with young Australians discussing their buying habits in relation to music CDs. The students then discussed the kinds of music they themselves listen to and the kinds of CDs they buy. The purpose of presenting the interviews was twofold. The first enabled students to hear authentic Australian English spoken by young people. From the perspective of their study of economics, the students could realise the relationship between real-world examples, ie, the CD market and their own experiences in buying CDs, and the theory of demand and supply and market equilibrium.

The first stage involved a lecture in which the discipline specialist revised relevant discipline theories and principles as well as procedures for the particular tasks the students would undertake throughout the module, including their reading of media articles. In the economics module, the revision had to do with equilibrium and demand and supply theory. The lecture aimed to prepare students for their lectures in their core economics subject. The lecture content replicated the economic principles taught both in economics as a major and in economics as a service subject in the business degree program.

The lecture revised how the market achieves equilibrium. The students were reminded how shortages of a good lead sellers to raise its price causing buyers to purchase fewer units while simultaneously causing the sellers to increase the number of units they offer on the market. They were then reminded that sellers continue to raise prices until they eliminate their shortages, at which point supply equals demand, and the market achieves equilibrium.

Equilibrium and demand and supply theory were then examined in relation to real-world topics such as government intervention. In the target assignment, this intervention was in the form of import restrictions imposed by the Australian government on the parallel importing of CDs.

In preparation for their assignment task, the students were required to read two media articles reporting on the Australian government's removal of parallel importing on CDs. However, it is my understanding that the students did not read the articles.

The second stage, the collaboration phase, involved the tutorial discussions and small group seminar presentations. The discussions were designed to be ‘quasi professional’, ie, for the students to work in teams to negotiate their tasks. It was here in the discussions that students could revise or remediate their understanding of the economic theory, principles and model interactively with the help of the economics lecturer and with class colleagues before they proceeded to their small group seminar presentations and to the third stage comprising individual assignment tasks.

In the first hour of the target tutorial session the students were to work together in small groups in order to develop their collaborative response to the assignment question and to draw a demand and supply diagram “as evidence” of their findings. In the second hour, it was intended that the students present their findings as a group to the class. In previous presentations, students divided the presentation between members of the group so that each student had an opportunity to present an aspect of their findings. Having heard all the presentations, as well as the economic lecturer’s comments and feedback, the students then had a comprehensive understanding of the assignment questions in preparation for the written assignment.

However, the presentations in the target tutorial session were postponed until the following week as none of the groups had completed their tasks sufficiently to present any findings.

The third stage included an individual seminar presentation and a written assignment.

The target assignment task

The assignment task required students *to extend the simple demand/supply theory to outline and illustrate a policy on parallel importing of CDs.*

Outline as defined by the OED (8th edition) is “a verbal description of essential part only - the main features or general principles”

Illustrate required students to draw a demand and supply diagram showing the impact of the Australian government parallel importing policy on the local CD market.

The focus of this task was to consider the impact of the regulation of the CD industry by way of parallel importing. The *regulation* of the CD industry involves the imposition of parallel importing whereby no-one other than record companies are able to import CDs into Australia. The purpose of such restrictions is to protect the local music industry from the competition of imported CDs, particularly the stronger US music industry. A result of the restrictions is a higher price for CDs for Australian consumers.

Parallel importing had been a controversial policy imposed by the Australian government until 1998. The *deregulation* of the CD industry, which occurred under revisions to the Copyright Act in 1998, means that CDs are now cheaper.

Lecturer's model answer

If the Australian government were to impose parallel importing on CDs this would mean that imports of CDs from certain overseas countries into Australia would not be allowed. This policy is similar to a quota system, which restricts the amount of imports into Australia. Figure 1 illustrates the policy.

2 marks

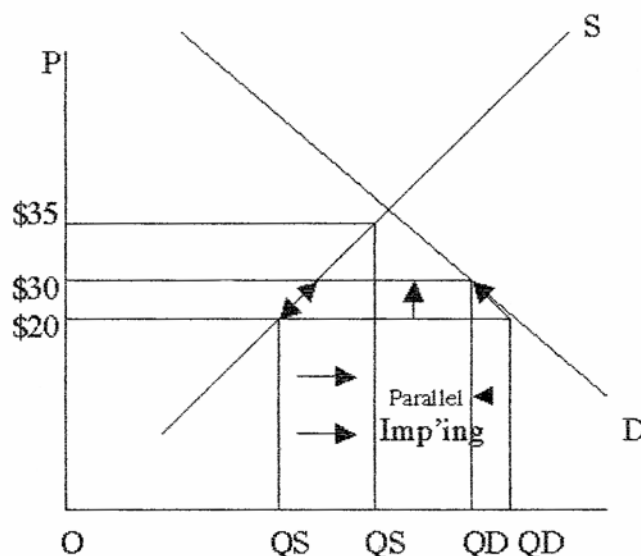


Figure 1 Demand and supply showing the impact of parallel importing

The impact of parallel importing is a rise in price (p_w to $p_w(q)$ in Figure 1), more Australians would produce CDs (q_s to q_{s1} in Figure 1) and thus more local employment, a fall in CDs purchased in Australia (q_d to q_{d1} in Figure 1) and a fall in imports (m to m_1 in Figure 1).

2 marks

The spoken data

The spoken data is made up of five phases (Phases 1 – 5) comprising 12 texts. Phases 1 – 5 of the tutorial discussion are determined either by the presence or absence of the economic lecturer, as shown in Table 3.1 below.

The 12 texts include:

- 1) Student texts denoted numerically 1-6; and,
- 2) Economics lecturer and student texts denoted alphabetically A-F.

1. Student Texts 1 – 6

These six texts show the students working alone on three occasions, during Phases 1, 3 and 5.

2. Economics lecturer and student Texts A – F

These texts show the lecturer's interactions with the students. As the lecturer moved around the tutorial room between student groups, she assisted the target group on two occasions identified as Phases 2 and 4.

Phase	interact's	Texts	focus of the discussion
1	students	1	<i>can someone please draw the diagram</i>
		2	<i>getting started: defining parallel importing</i>
		3	<i>difficulty illustrating the model using Marshall's demand and supply diagram</i>
		4	<i>a. attempting to explain the model - we have to ask why b. encountering difficulties explaining the model</i>
2	eco lecturer + students	A	<i>responding to student questions: you know parallel importing? is [does] it become a market?</i>
		B	<i>repair #1 let me start again, first of all you might start here at equilibrium</i>
		C	<i>repair #2 no start again, it continues on from question three here</i>
3	students	5	<i>attempting to explain the impact of parallel importing</i>
4	eco lecturer + students	D	<i>responding to student question: why [do] we know the world price [is] lower than the equilibrium price?</i>
		E	<i>responding to student questions: how about how about this um this this shortage? is it supplied by the I mean local producer?</i>
		F	<i>responding to student question: and the ban price, I mean, the parallel importing price is set by the government?</i>
5	students	6	<i>attempting to explain the impact of parallel importing more congruently</i>

Table 3.1 Phases, Texts and focus of the target tutorial discussion

The students' texts: Texts 1 – 6

Texts 1 – 4: It is in these texts in Phase 1 that the students collaboratively defined parallel importing; outlined the reasons for having such a policy; attempted and then abandoned the drawing of the demand and supply diagram; and then attempted to determine the effects and outcomes of the policy.

Text 5: This text in Phase 3 follows on from the lecturer's first interaction with the students. Text 5 shows the students' collaborative attempts to construe the consequences of parallel importing and the reasons for such consequences.

Text 6: Text 6 in Phase 5 of the tutorial follows on from the lecturer's second interaction with the students. Text 6 shows the students' attempts to predict the consequences of parallel importing more congruently.

Criteria used to identify the students' texts

The criteria used to identify the students' texts are determined primarily by their changing focus on three aspects of their task: the drawing of the demand and supply diagram; the assignment question; and, the meaning of parallel importing. Hence, each of the students' texts is initiated by either: i. negotiating how to draw the demand and supply diagram, ii. negotiating how to undertake the assignment task, or, iii. interpreting the consequences of and reasons for parallel importing, for example,

i. negotiating the drawing of the demand and supply diagram

turn 1	Tiff	<i>can someone please draw the diagram</i>
-----------	------	--

from Text 1

ii. negotiating how to undertake the assignment task

turn 6 7	See Li	<i>OK all these questions? no we pick and choose</i>
----------------	-----------	--

from Text 2

iii.

a) interpreting the consequences of and reasons for parallel importing

turn 175	See	<i>parallel importing is ah mainly to ban those um importing that cause(s) the price to go up</i>
-------------	-----	---

from Text 5

b) interpreting the consequences of parallel importing showing more congruent predictions

turn 358	Tiff	<i>you should import all those twenty but dollars (=the price) restricts (to) only ten</i>
-------------	------	--

from Text 6

The economic lecturer texts Texts A-F

Texts A – C: It is in these initial texts in Phase 2 that the lecturer offers metaphorical and largely monologic explanations of the economic model in response to the students' questions. It will be seen that these texts in many ways replicate the predictive reasoning of written economic discourse.

Texts D – F: These texts constitute the second visit with the target group in Phase 4 of the tutorial session. In response to the students' apparent confusions, Text F shows the lecturers' more congruent explanations of parallel importing.

Criteria used to identify the lecturer's texts

The criteria used to identify the lecturer's texts are determined by either: i. a student question, or ii. a repair by the lecturer to her own explanation, for example,

i. an initiating student question

turn 254	Li Economics lecturer	<i>we want to ask why (do) we know the world price is lower than the equilibrium price? what we're saying is that's world price ...</i>
-------------	------------------------------	---

from Text D

ii. a repair by the lecturer to an explanation

turn 153	Economics lecturer	<i>no start again it continues on from question three here it assumes you start with you thirty dollar equilibrium here your steep demand curve and your flat supply curve</i>
-------------	--------------------	--

from Text C

The Texts will be revisited in the analysis of the data in Chapters 5, 7 and 8.

Turns

As noted in Chapter 1, the texts were segmented into turns. The number of turns taken by the lecturer and students throughout the discussion is shown by each text in Table 3.2 below,

Phase	Texts	Number of turns		
		Eco lecturer	Students	
1	1	-	5	<i>can someone please draw the diagram</i>
	2	-	44	getting started: defining parallel importing
	3	-	22	difficulty illustrating the model using Marshall's demand and supply diagram
	4	-	61	a. attempting to explain the model - <i>we have to ask why</i> b. encountering difficulties explaining the model
sub-total		-	132	
2	A	4	3	responding to student questions: <i>you know parallel importing? is [does] it become a market?</i>
	B	6	6	repair #1 <i>let me start again, first of all you might start here at equilibrium</i>
	C	12	12	repair #2 <i>no start again, it continues on from question three here</i>
sub-total		21	153	
3	5	-	77	attempting to explain the impact of parallel importing
sub-total			230	
4	D	7	8	responding to student question: <i>why we know the world price [is] lower than the equilibrium price?</i>
	E	7	7	responding to student questions: <i>how about how about this um this this shortage? is it supplied by the I mean local producer?</i>
	F	30	44	responding to student question: <i>and the ban price, I mean, the parallel importing price is set by the government?</i>
sub-total		44	289	
5	6	-	57	attempting to explain the impact of parallel importing more congruently
Total		65	346	

Table 3.2 Turns taken by lecturer and students by Phase and Text

The total number of turns by the lecturer is 65. The total number of turns by the students is 346. The number of turns by the economics lecturer and students in Texts A – E is similar, suggesting the students were as equally engaged as the lecturer. In Text F, the

students' turns outnumber the lecturer's turns 44:30. The greater number of turns by the students suggests that they may have gained better understanding of the model and could engage more with the lecturer. However, in Text F, 47% of the messages constituting the students' turns were either minimal feedback or incomplete utterances. Indeed, 67% of the messages constituting the students' turns with the lecturer throughout the entire discussion (Texts A – F) were either minimal feedback or incomplete utterances. By contrast, only 14% of the messages constituting the lecturer's turns were minimal feedback or incomplete utterances. For a more detailed discussion of progressive and punctuative messages construed throughout the tutorial discussion, see Chapter 5 (*Section 1 Message semantics*).

A comparison of turns by each student in each Text is shown below in Table 3.3,

Phase	Text	Li	See	Tiff	Cin	Ken	sub-total by Text	Focus of the discussion
1	1	2	-	2	1	-	5	drawing the diagram
	2	11	12	11	8	2	44	defining parallel importing
	3	3	7	4	6	-	20	difficulty drawing the diagram
	4	13	11	21	15	1	61	trying to explain the model
3	5	18	24	21	12	2	77	trying to explain consequences
5	6	18	7	17	14	1	57	trying to explain consequences
sub-total: each student		65	61	76	56	6		
Total							264	

Table 3.3 Comparison of turns by each student by Phase and Text

The number of turns indicates that each student, with the exception of Ken, participated to a similar extent in most aspects of the discussion, viz, drawing the diagram; defining the model; and, attempting to explain the model. In Text 6, See is less interactive than in previous phases of the discussion. It is here that Li, in particular, attempted to draw on economic principles to explain parallel importing.

It can be seen that each Text is made up of quite different numbers of turns. For example, drawing the demand and supply diagram, which was the primary focus of the discussion, constitutes only 25 turns of the discussion (Texts 1 and 3). In contrast, trying to explain the model and predict the consequences of parallel importing constitutes 195 turns (Texts 4, 5 and 6). Defining the model of parallel importing constitutes 44 turns. These variations may indicate that the students found drawing the diagram an easy task and so completed it quickly and then moved on to the important expositional aspects of the assignment, ie, explaining the model. Conversely, these variations may indicate the students abandoned drawing the diagram and attempted to understand parallel importing before attempting to illustrate its meaning symbolically.

As indicated previously, initial impressions of the spoken data in the economics module suggest the students experienced significant difficulties in undertaking their assignment task. It is this latter interpretation that is the motivation for this investigation. Prior to the analysis of the spoken data, the nature of economic discourse and its various manifestations as an academic discipline will now be discussed.

Section 2 The nature of economic discourse

This section of the chapter provides perspectives on the nature of economic discourse. In order to understand the experiences of students with economic discourse in university education, particular socio-historical perspectives of economic discourse will be described. Recent discussions in the literature will then be reviewed; these report on the challenges of learning economic theory for business and management students, including, second language international students. The discussion concludes with an introductory examination of the role of visual images in economics education.

Socio-historical perspectives on economic discourse

Economics is described as a theory-intensive *a priori* science rather than an observational science (Smith, 1989:151). *A priori* predictions constitute the central concern of the discourse, ie, to predict what is generally true rather than to impart from observations of a single event or experience at a particular time and place. Unlike the physical sciences, the discipline of economics did not develop from observations of actual material phenomena. Instead, the goal of economics as an academic theory is the generation of economic predictions by way of explicit lawlike generalisations. To achieve this goal, economic reasoning uses a tripartite framework: economic theory constituted by predictions, which, in turn, are tested by theoretical models. The relationship between economic theories, models and predictions is explained by Papps and Henderson (1977:67ff),

... the role of models is to produce testable propositions that can be used in turn to test theories...Both constructs are concerned with fundamental causes, the difference being the generality of their concern.

Regarding the theoretical nature of the tripartite framework, McTaggart, Findlay & Parkin (1996:11) explain,

No matter how useful it is, there is no sense in which a model can be said to be reality. When predictions are in conflict with the facts, either a theory is discarded ... or we return to the model building stage, modifying our assumptions and creating a new model ...

Indeed, oft quoted truisms among economists include: “the real world is a special case”; similarly, an economist is someone who sees something working in practice and wonders if it could work in theory.

The arcane nature of economics as an academic discipline, which McClosky (1994) refers to as “the blackboard problem” to denote the distance between economic theory presented in academic contexts and actual material phenomena, invokes a deal of dissent within the discipline. Criticism of the increased use of mathematics has been particularly strident; however the *a priori* predictions and generalisations also incite a

deal of criticism. While theoretical and abstract methods, Galbraith (1987:259) points out, may appear to provide aspects of certainty and precision, one of the costs is the removal of the subject several steps away from material reality. To begin economic exercises with the words, “We assume perfect competition”, according to Galbraith (p.260), means that “perfect competition” leads an esoteric existence, “if, indeed, any existence at all”.

The discipline of modern academic economics has its foundations in the immense social, economic, religious, political and intellectual transformations bought about in Britain during the sixteenth, seventeenth and eighteenth centuries. The progenitor of modern economic discourse was the emerging observational scientific discourse of the seventeenth and eighteenth century British ‘scientific revolution’. These new forms of knowledge were provided by the physical sciences and have endured diachronically over several centuries, as they have in the natural sciences. Scientific explanations bought together the previously disparate components of practice and theory, as Halliday (1993b:67) notes,

Up to that point, doing and thinking remain as separate moments in the cultural dynamic; in ‘science’, the two are brought together. This process leaves room for different models of how the two are to be interrelated, which gives rise to currents of thought in humanist philosophy...

Until Adam Smith’s *The Wealth of Nations*, debates about the increasing commercialisation through the production and distribution of wealth had been fragmented (Peil, 1999:46). Smith provided the framework for various commercial phenomena to be conceived of as an all-encompassing self-regulating system i.e. the market economy. In this process, the influence of Newton is apparent. Indeed, the influence of Isaac Newton’s scientific discourse on Adam Smith’s interpretation of human behaviour as an all-encompassing system under a single principle or schematic system is widely acknowledged (Bazerman, 1993:179 & 191) and continues in the discourse to the present day. Smith based his rhetoric on Newton’s logical devices over Aristotelian presentation of didactic rhetoric. Rather than human behaviour explained by deductions from atomistic, egocentric individuals, Smith argued in favour of a

change to a principle of mutual attraction, as Newton did in the field of astronomy (Peil, 1999:162 & 174),

And even we, while we have been endeavouring to represent all philosophical systems as mere inventions of the imagination, to connect together the otherwise disjointed and discordant phenomena of nature, have insensibly been drawn in, to make use of language expressing the connecting principles of this one, as if they were the real chains which Nature makes use of to bind together her several operations ... all closely connected together, by one capital fact, of the reality which we have daily experience. (Adam Smith, *Essays on Philosophical Subjects – History of Astronomy*, IV.76)

Smith used Newton's principle of gravitation, according to Peil (1999:164), in a metaphorical-analogical sense for his theory of *natural* and *market prices*,

The natural price, ... is, as it were, the central place, to which the prices of all commodities are continually gravitating. Different accidents may sometimes keep them suspended a good deal above it, and sometimes force them down even somewhat below it. But whatever may be the obstacles which hinder them from settling in this center or repose and continuance, they are constantly tending towards it. (Adam Smith, *Wealth of Nations* I.vii.15)

Newton's work, therefore, marked the end of purely taxonomic science and laid the foundation for a new model based on experimentation, general laws and predictions toward the work of later 18th century and 19th century scholars (Halliday & Matthiessen, 2001:575). Similarly, Adam Smith's abstract and philosophical analysis of the market economy and economic behaviour was embryonic for later general equilibrium analysis, primarily by the neo-classicist economist, Leon Walrus (1837-1910). From the development of economic principles to do with marginal utility and general equilibrium, economics continued to be transformed into highly abstracted theories with further use of methods similar to those used in natural sciences and mathematics. As Fushfeld (1994:85) notes,

One of the strong points of neoclassical economics was the use of methods similar to those used in the natural sciences and mathematics... The combination enabled economists to develop "laws" of economic behaviour and prescription for public policy that had the ring of scientific truth.

The analytical model derived much of its rigor from its simple theoretical structure.... This gave the results of theoretical analysis an aura of universal validity and applicability. Like Newtonian physics, it was a science of infinite space in which inexorable natural forces worked out a stable equilibrium.

Thus, when economic lecturers in twenty-first century classrooms begin their explanations,

first of all you might start here at equilibrium

Text B 208

it is apparent that eighteenth century economic *a priori* theories and principles have survived intact.

The written discourse of economics: begins with abstraction and metaphor

Historically, construals of economic theory, as with scientific theories, have been dependent on written discourse. The resultant status of written discourses means that the theories themselves are used to generate further theoretical concepts. In relation to science, Halliday (1993b:8) notes, it is a language “in which theories are constructed”,

The language of science demonstrates rather convincingly how language does not simply correspond to, reflect or describe human experience: rather ... a scientific theory is a linguistic construal of experience.

Linguistically, the written discourse of economics, Wignell (1998b:194) has found, construes knowledge by dual processes of abstraction: first by the use of abstraction, metaphor and technicality in written texts, and secondly, by an additional reconstrual into mathematical formulae and graphs. He notes, “These formulae are then available as a resource which can then be reconstrued back into technical language”.

Halliday (1993b:71) has identified the following characteristics of scientific language which may present difficulties for learners: it is possible that learners may encounter

similar difficulties with economic English. It should be noted that these characteristics concern *written* discourse:

1. interlocking definitions
2. technical taxonomies
3. special expressions
4. lexical density
5. syntactic ambiguity
6. grammatical metaphor
7. semantic discontinuity

From preliminary analyses of the spoken data presented here, the difficulties for this student cohort in their encounter with *spoken* economic discourse appear to include:

1. spoken explanations replicate metaphoric written discourse
2. the obscure relationship between second order abstractions and metaphor and first order congruent meanings
3. the complex nature of the rhetorical functions of economic theory
4. symbolic meaning construed in visual images largely unexplained in written texts
5. obscure or implicit reasons given for predictions and consequences and economic models

Revisions to economics curricula in undergraduate degree programs

To offset declining enrolments in economics education, a call has been made for “real world issues” to be brought into economics curricula. A common criticism of economics content concerns the limited relations between the abstract reductionism of the neo-classical paradigm and empirical evidence, particularly in relation to mundane experiences. Much of this discussion originates in academe in the United States with some collaborative work with Australian and UK colleagues. In advocating approaches whereby students are be able to realise such relationships, Frank (2002:461) suggests,

We will teach them more effectively if we begin with a short list of the most important principles we want to get across ... and then teach these principles by showing how they work in the context of examples drawn from everyday experience.

The core economics curriculum which informed the BCP economics module had undergone significant revisions in light of the concerns set out by many writers, including Borg and Borg (2001), Becker (1997), Frank (2002), among many others. A focus of the revisions was to demonstrate the everyday relevance of economics by way of topical issues as reported in the Australian media. A book of readings accompanied the students' economics textbook, authored by Cowie, Findlay and McTaggart (1997). The relevance of the readings is explained to students as,

The best way to retain knowledge of economic concepts is to use them. In any first year course you will be exposed to a barrage of ideas and models. This book offers you the chance to apply these concepts and techniques and to comment on current issues. As you apply your new knowledge to work on interesting topics, you will reinforce your understanding and increase your ability to think like an economist. (p. viii)

Strategies for enhancing students' skills in critical thinking are among other aspects of economic curricula that have come under scrutiny. Included among the primary aims of the Business Communication Program (BCP), as noted in Section 1, was the enhancement of the students' understanding of economic theories and principles in order that they could *interpret and critically assess discipline theory*. Critical thinking is defined by Borg and Borg (2001) as "the ability to make contextually appropriate decisions". In making such decisions, it is necessary that students realise they are making decisions in the context of uncertainty, ie, they are able to make decisions and choices on the basis of different discipline-specific methods and criteria but in the context of their own values. Yet, economics, Borg and Borg (2001) contend, does not enable such decisions. Instead, economics teaches analytical skills. Their argument is premised on the claim that students of economics are most often taught that theoretical rigour and the ability to predict are more important than critically evaluating any of the assumptions underlying economic theories and principles. In this sense, economics contrasts with other disciplines in the humanities and social sciences, such as sociology and anthropology, where explanatory power, logical consistency and empirical evidence are given greater weight than any reductionist theories.

Attempts to develop more appropriate curricula and teaching methods in economics are not new. In 1950, Taylor (1950:5 cited in Barrett, 2005) identified significant challenges in economic curricula:

1. many seek to serve too many objectives;
2. most courses lay principle stress on theory;
3. many, if not most of them, present a large volume of theory, and a greater variety of viewpoints and methods than are appropriate for young students inexperienced in abstract and sustained thinking.

In gauging students' ambitions in learning economics, Borg and Borg (2001) have found that students want to learn more about economic policy issues, the interdisciplinary relevance of economics, the validity of fundamental assumptions, and alternative approaches. Economics in mainstream curricula sacrifices some of these, according to Barrett (2005), in favour of teaching the predictive power of economic models. These findings are similarly echoed by Browne et al., (1995:180),

... although certain mathematical and problem-solving skills are of great value in ... economics programs, critical thinking skills, such as questioning assumptions, recognizing historical context, and generating new questions or alternative conclusions, are often ignored. If this situation is indeed the case, then ... economics students are not developing, unless by osmosis, certain indispensable abilities highly prized ... in the field.

Revisions recommended for teaching practises in economics include greater in-class co-operative learning activities among students. A key to academic success, Becker (1997:1359 citing Light, 1992) argues, involves the linking of academic work between two students or between small groups of students. While citing claims that students who work in small groups learn more than those working alone, Becker (1997:1360) offers no reasons for why this may be so.

The role of dialogue in student learning is rarely, if ever, considered in these calls in the literature for revisions to economic curricula. This situation is exemplified in the major revisions to the main economics curriculum which informed the BCP. In these

revisions, a focus was placed on extensive opportunities for students to discuss with others upcoming topics in their program of study in their tutorial sessions. The content of the discussions was the assigned media articles in their book of readings. These discussions took place before the students were presented with the relevant theory and principles in lectures. The apparent aim had been for the students to have developed their own understanding of the topic “to think like an economist” in preparation for the theoretical perspective. The explicit role of dialogue in this process, however, is overlooked.

The phrases “think like an economist” and “write like an economist” appear frequently in the literature in economics education. The students’ book of readings (Cowie, Findlay and McTaggart, 1997:xiii) attempts to interpret how this may occur,

To write like an economist shows that you are thinking like an economist, which means that you can construct an argument like an economist. Such writing should have a clear purpose that is logically developed, substantiated and detailed throughout the essay. Your readers should feel that their knowledge has been enhanced as a consequence of reading your work. To do this you must:

- establish your assumptions;
- determine the theory and diagrams/models needed to illuminate that theory;
- establish the starting equilibrium point;
- identify changes to the starting point environment;
- determine the result of any changes;
- establish why it is the result; and
- justify your outcome.

However, in its application, this discussion format, whereby students could begin to understand topical issues from their own perspectives, was considered unpopular by many students. Students reported to me that they found the process difficult. It appeared that many students felt it was a kind of blind process; they were being asked to engage with discipline content without having been given the full facts. In this sense, they considered that their own interpretations and ideas were worthless or they could not develop any substantial interpretation until they had access to the theoretical content.

Reported challenges for business degree students studying economics as a service subject

While enrolments in undergraduate economic programs have been declining over the past decade, a major activity of most economics faculties in Australian universities is service teaching introductory economic principles, for example, to business and management students, as in this case study. Revisions have been recommended and implemented in some cases to core economics curricula, as discussed. Yet, it seems similar revisions have not been considered for the teaching of economics as a service subject. Indeed, in most Australian universities, according to Barrett (2005), the same economics curriculum is taught to both students majoring in economics undertaking an economics degree program and to business and management students in a business degree program. At best, the curriculum of the service subject may present simplified accounts of key economic principles and theories.

The question of how to make service teaching of economics more relevant to business and marketing students is the focus of Barrett's (2005) critique of economics education. Here, he addresses two key concerns. The first mirrors many other commentators in acknowledging the need for economics curricula to relate theory and principles to real world empirical evidence and to the future professional needs of students, particularly those undertaking economics as a service subject. The second looks out toward the external stakeholders in business education, such as the professional organisations that set down the requirements for business degree programs.

However, the content of a traditional economics curriculum, Barrett (2005) argues, does not meet the needs of business and management students. Rather than reminding business students that economics is the study of scarce resources allocated among unlimited wants, these students, he claims, should learn how real economies work. Currently, he argues, courses in economics principles tend to deliver a dogma that remains unquestioned throughout the course. The abstract reductionism of the neo-classical paradigm limits the usefulness in addressing the contemporary social issues. The result is a lack of connection between the economic theories of the classroom and the complex activity of the real world in which students will function. Without greater consideration of real-world issues, the study of economics, Barrett predicts, provides

business and management students with a distorted picture of how developed capitalist economies operate, and a limited perspective as to how they will make decisions professionally within an economic context.

The question of how to make service courses more relevant to business students lies in part with the key sponsors. These sponsors are the professional associations that business graduates will join. These associations, Barrett points out, are important external stakeholders as many of them stipulate the study of economics as a compulsory pre-requisite for membership. However, he argues, such associations rarely articulate the reasons they require graduates to have studied economics. With clearer articulation of these needs, it would make it easier, according to Barrett, to develop curricula to meet the actual needs of business students.

These arguments were published subsequent to the design of the BCP curriculum. In effect, the inclusion of dialogic learning in the BCP was an attempt, as noted in Chapter 1, to breach the interstices between the traditional curriculum of economics as an academic canon and the particular needs of second language international students. Dialogic learning, then, had been considered as the means whereby students could both mediate and create their own ideas. However, the challenge of “the dogma of the neo-classical paradigm” as delivered in a service subject had not been fully addressed in this trial of the BCP curriculum. This may be another prophetic issue in relation to the findings from the analysis of the spoken data presented in this study.

Reported difficulties of studying economics for second language students

The BCP curriculum did address, however, evidence that the academic performance of second language students studying economics at Australian universities is less successful than local students (Feast, 1996; Watson & Barber, 1995). It is not known whether these findings relate to economics taught as a discipline major or to economics as a service subject. Considering that many second language international students are enrolled in business degree programs, it can be assumed that a deal of this evidence relates to the latter, ie, to economics as a service subject.

The students' difficulties are reported in the literature in relation to several features of the discourse. The first involves the constant shifts between different categories in the discourse. The discourse, according to Mason (1990), frequently begins with hypothetical and abstracted theories and models, made more complex by the use of other semiotic systems. Particular confusions for students concern the difficulties in realising any continuum between commonsense language and economic models due to the continual shifts between personification, metaphor and reference to mathematics and visual diagrams. A similar finding from Hewings (1990:30) suggests it is the frequency of shifts between attempts at real world examples and the ideal world in which economic models are created and manipulated which present difficulties for many students.

The second reported area of difficulty involves the complexity of source texts, for example, media texts which are used increasingly in economic curricula. As noted previously, the use of media texts is an attempt to assist students relate economic theory to real world current events and to students' own understandings of these events. However, in their reading of media texts, McGowan (1997) has found second language students need to draw on specific cultural knowledge and experience to interpret the highly metaphorical and culturally specific economic discourse. The results of McGowan's (1997:26) analyses provide examples of the linguistic difficulties that second language students typically encounter. These include: (1) lexical metaphors; (2) grammatical metaphor; (3) composite (lexical and grammatical) metaphors; (4) mixed or incomplete metaphors; and (5) their relationship with local knowledge.

These reported difficulties were valuable when considering the design of the Business Communication Program curriculum.

The role of visual diagrams in academic economic discourse

The primary aim of the tutorial discussion was, as discussed in Section 1, for students to integrate a supply and demand diagram as "evidence" into their written explanations. In economics the advent of demand and supply diagrams as a mechanism for visual reasoning from 1860s onwards is attributed to the political economist Alfred Marshall (Cook, 2005). Like Venn, Marshall saw diagrams as providing something akin to the

mechanisms and laboratories of other contemporary sciences. He conceived a two-dimensional coordinate graph using a “method of curves”, according to Cook (p.188), in order to develop a method which could compare corresponding phenomena at different places and different times.

The diagrams were not intended as mere displays, rather they were intended to be a means of economic analysis - an “engine of discovery” - to be used as a mechanism for visual reasoning. As Cook (2005) states,

The connection between these instances of new forms of visual reasoning and the traditional content of Cambridge mathematics is most clearly evident with Marshall’s economic curves. The deductive versions of these curves are explicitly applications of differential calculus. (p.185)

While Venn’s diagrams represented a system of deductive logic ... Marshall utilized visual techniques for both deductive and inductive purposes. (p.188)

The use of Marshall’s diagrams as “evidence” in economics increased in popularity throughout the twentieth century, notably with the work in education of Paul Samuelson. They are now employed universally in teaching economics and in research. However, by the end of the twentieth century, Hugh Stretton (1999:257) advocated that students should avoid an overuse of graphs and as such not to lose sight of reality,

Economics gets into the habit (I think it's a bad habit) of talking about the curve rather than the life it represents. Instead of saying 'Demand has changed because of a price change', they say, 'There has been movement along the demand curve'. Instead of saying 'No, this change in demand has happened for other reasons', they say 'The curve has shifted' ...

But you may keep a clearer head for realities, and for the theory's limitations, if you generally think in real terms. Instead of asking 'Is this change in demand a movement along the curve, or a shift along the curve?' ask what is causing the change: a price change, an effect of advertising on people's preferences, a change in the amount they spent - or what?

For business and management students, the need to learn economic theories and principles as symbolised in graphs is argued by Barrett (2005:161) to be unnecessary,

Business students do not have the need to be able to manipulate graphs and equations, this is not one of the reasons they should study economics as stated by interested members of the accounting professions. Indeed, experience suggests that struggling with graphs and equations distracts many students from learning economic principles that they require to make sense of the economy.

From a linguistic perspective, the potential ‘distraction’ for students having to interpret a graph or visual image relates to the absence of any explicit intermediary element which translates them. They are, as Foucault (1970:67) describes, "empiricism in its most unrefined form", ie. their translation needs guidance. Halliday (1990:14-15), in acknowledging the difficulties of translating visual images into verbal language, states,

...if we think about these (visual) texts grammatically, we find that the situation is ...complex. There are interpersonal devices, some of them very subtle; the problem is that it is here their distance from language is probably greatest, so these meanings are the hardest to “read aloud”. On the other hand the ideational meanings may be very indeterminate and ambiguous; and the textual meanings are notoriously hard to retrieve—texts are usually presented in the context of other textual material which is in language, but this, while it may solve some problems, often creates another one—namely, that we do not know how the verbal and the non-verbal information is supposed to be related.

Hints of this complexity are contained in lecturers’ concerns that students are frequently unable to integrate visual ‘evidence’ into their written assignments and exams. Graphs and diagrams in economic written texts, according to Wignell (1998b), are an assumed part of the discourse, albeit unexplained, “if you want to find out how Exhibit 3 illustrates a relationship you have to go to the graph”. Similarly, Royce’s (1999) analysis of the relationship between the written and visual modes in economic textbooks found that there is a lack of any rigorous treatment given to the role played by visual images in the discourse, yet it is a discourse in which multimodal texts predominate. The visual displays remain discrete and separate entities rather than in any sense, in Royce’s terms, intersemiotically related to the verbal text.

Recent studies have begun to examine the complex relationship between verbal language and other semiotic modalities, such as, visual and mathematical representation. Verbal language, Lemke (1998:87) observes, provides an excellent

resource for distinguishing difference and relationships and for categorical distinctions, however it is much poorer in depicting other dynamic relationships, such as continuous change, varying proportionality and gradations. A gesture, he claims, indicates relative positions better than language, or better still, static graphs which can be re-examined at the viewer's leisure. Of multimodal scientific discourse, Lemke (online #2)) observes,

Science does not speak of the world in the language of words alone, and in many cases it simply cannot do so. The natural language of science is a synergistic integration of words, diagrams, pictures, graphs, maps, equations, tables, charts, and other forms of visual and mathematical expression.

... consider how poor language is in resources to describe continuous variation and complex matters of quantitative relationships. How well could you describe the exact relationships between two curves on a Cartesian graph? or given more than the most rudimentary view of their changing differences in qualitative terms?

... drawings and visual depictions, which are in many ways the lasting traces of gestures, standing to gestures as writing does to speech, are the time-independent medium of choice for such expressions of meaning.

The use of graphs and visual images in university disciplines, such as in economics, is often assumed to be shared knowledge. My own observations of lectures and tutorials in various disciplines, most particularly mathematics, statistics, science, and now economics, suggest that explanations of the relationship between the material activities during the experiment or physical phenomena and the verbal text and visual images are frequently considered redundant, even tautological. The primary focus of instruction is frequently on the accuracy of draughting and in the calculations to be included in the image rather than any interpretation of the symbolic relationship between the actual phenomena and the visual elements. The manifest meanings of visual symbolism is acknowledged by Kress and van Leeuwen (1996:51) as akin to 'religious awe',

The basic geometric shapes have always been a source of fascination, even of religious awe. Our scientific age is no exception. Circles, squares and triangles have been regarded as pure, quasi-scientific 'atoms' of the visible world, a 'pure manifestation of the elements', the 'universal-as-the-mathematical' (Mondriaan qtd in Jaffe, 1986:54-5).

In the trial study conducted in statistics, discussed in Section 1, I found students frequently regarded visual images, such as graphs and charts, as self-contained entities. Once tutorial discussions were introduced into the curriculum, the students, guided by the lecturer and each other, began to realise the relationship between the activities carried out during their experiment, the symbolic representation of their results in their graphs and charts, and, in turn, the relationship between the written descriptions and explanations of the experiment and the visual diagrams as a multimodal construal of the experiment.

The role of diagrams in economics was explained to this student cohort in one of their core textbooks. The authors, Cowie et al., (1997:xiii), explain that ‘analytical diagrams’ play quite complex roles as symbolic representations of both economic theory and the real world. On the one hand, they are described as instruments for analysis and evaluation of economic theory, and, conversely, their role is described as minimal; as a reflective device for everyday economic situations,

Economics essays usually involve the use of analytical diagrams/models to describe, analyse or evaluate an economic situation taken from everyday life, often with the intention of predicting the likely outcome of an economic decision. Therefore, when using economic diagrams/models it is important to remember that they create small, simple environments that reflect characteristics of the real world. Diagrams/models are a presentation of economic theory in equations, lines and curves.

Interestingly, the spoken data in this study indicate that the role of the demand and supply diagram is illustrative rather than any ‘mechanism for visual reasoning’. Linguistically, the demand and supply diagram was rarely a primary or even secondary participant in the tutorial discussion, ie, it is rarely in subject position as Actor or Goal or as Token or Value. As the excerpt from Text B below indicates, the diagram is most often construed as a circumstantial adjunct throughout the tutorial discussion,

turn messinteractant
 153 231 Eco lecturer *then when they say well we'll only allow this amount of imports in*
 232 *it creates a shortage **from there to there and there to there***
 233 *so we've got two sides of the shortage a shortage **there to there***
 234 *what does a shortage do?*
 235 *forces the price up **to PW***
 236 *we'll call it parallel importing*

excerpt from Text B

A more detailed analysis of the role of the demand and supply diagram in the tutorial discussion will be given in Chapter 5 (see *Section 4 The role of demand and supply diagram in the tutorial discussion*).

Summary

In this chapter, the methodology that shapes the research was described. It was revealed that the case study draws to an extent on the principles of critical ethnography and the notion of *praxis*, which in education is premised on effecting change to existing taken-for-granted teaching practices. It was also stated that it is the implications of the findings which are a primary motivation for the study.

The chapter then provided the more specific context of this study. In this effort, the discussion brought together the multiple parts that have made up the approaches undertaken in this research project, viz, the collection and transcription of the spoken data, the student cohort, the curriculum and the discourse that constituted the economics module of the Business Communication Program. It was pointed out that a feature of this study is the seemingly different and complex nature of the spoken data to be analysed here. In order to understand the kinds of challenges confronting second language international students in their studies in Australian university business degree programs, the nature of economic discourse was examined from three perspectives: 1) historically, 2) economics as a major in degree programs; and 3) the emergence of economics as a service subject in business degrees. The examination revealed the arcane and complex nature of the discourse, even in service subjects. Linguistically, the scant literature showed that economics does indeed present students with many challenges. Common among the challenges is the hypothetical and abstracted nature of the theories

and models which are very often made more complex by the use of other semiotic systems. Particular confusions concern the difficulties in realising any continuum between commonsense language and economic models due to the continual shifts between personification, metaphor and reference to other semiotic systems, such as mathematics and visual diagrams.

The chapter concluded with an overview of the various roles ascribed to visual diagram in economics. The purpose of this examination, which will be revisited in Chapter 5, is both to understand the role of the diagram in the students' negotiations, and to offer insights not previously discussed in relation to educational economics and dialogic learning.

Chapter 4

Theoretical framework for the analysis of the spoken data: systemic functional linguistics

Without any linguistic studies to date of spoken economic discourse, this discussion will proceed with descriptions of the theoretical framework offered by systemic functional linguistics (sfl) in the analysis of the spoken data presented in this study. The descriptions include aspects of the theory with relevance to preliminary findings in the data. Findings in the literature regarding economic discourse from linguistic perspectives are also presented.

The strength of systemic functional linguistic theory lies in its view of language as constructing meaning. The descriptions of systemic linguistic theory will attempt to reveal how the theory is a multi-functional and multi-stratal functional model of language. Language not only constructs the meaning of individual messages but also of social and cultural contexts. However, as Halliday (2004:21) contends, all of the components of the model are ultimately variants of a single motif: the organisation of meaning in the grammar.

From a systemic functional perspective, its stratified descriptions link context to different levels of language use and meaning: the grammar of the language transforms experience and interpersonal relationships into meaning (semantics) and then further transforms meaning into wording (lexicogrammar) (Halliday, 2004:24). Thus, the different choices in meaning, ie, semantic choices, made by interactants are not reduced to word choices. Instead, their choices in meaning are realised by the reciprocal relationship between lexis and grammar (lexicogrammar), semantics, and the context (discourse).

The aim of using linguistic resources in this way is to examine how the neoclassical written discourse of economics was negotiated dialogically between the students and the lecturer in their tutorial discussion. In examining these negotiations, the analysis will

take account of meanings and shifts in meaning choices throughout the discussion. It is, then, language as system which is the focus of the analysis to be presented. More specifically, it is the system of language at the semantic level, and with certain features at the lexicogrammatical level that provides the linguistic resources in the analysis of the tutorial interactions. The advantage of adopting this approach lies in the possibility of examining patterns of semantic rhetorical meaning-which to date have been given little attention - and when relevant, at the more delicate level of the lexicogrammatical stratum, as Halliday (2004:587) explains,

... lexicogrammar makes a considerable contribution to the development of patterns in the text that extend beyond a single grammatical unit such as the clause, or even a complex of units such as the clause complex; and this is of course why lexicogrammatical analysis can tell us so much about how it works ... The patterns that are developed in this way are, however, patterns of meaning, not patterns of wording; they are patterns at the level of semantics ...

Table 4.1 following sets out a synoptic account of the analysis of the spoken data in the following chapters. The table shows the following: the features of interest in the tutorial interactions; the aim of the analysis of these features; and the various theoretical resources offered by systemic functional linguistic theory in the analysis,

Chapter	Feature of the tutorial interactions	Aim of analysis	SFL / theoretical resource
5	Questions posed by the students.	To realise the kinds of questions asked by the students, eg, to confirm or to apprise information.	The analysis will use an adaptation of Hasan (1983; 1989) and Hasan and Cloran's (1990) network of semantic choices for asking questions.
5	Experiential focus of the questions and responses.	To provide a synoptic overview of the experiential meanings construed throughout the tutorial discussion, and, in particular, shifts in meaning.	A transitive analysis of the spoken data at the level of lexicogrammar to take account of experiential participants. An ergative perspective will complement transitivity by identifying the key experiential participants (Halliday, 2004; Eggins, 1994).
7	Students' self-regulation and negotiation of their tutorial task.	To determine how effectively the students were able to undertake their task, or otherwise.	The analysis will use the relation between Bernstein's theory of the regulative discourse and the instructional discourse.
7	Lecturer's mediation of the students' questions.	To determine how the lecturer mediates the students' understanding of their task.	Cloran's (2006 draft:2) characterisation of the instructional discourse will define the various functional elements in the instructional discourse, eg, <i>Orientation</i> , <i>Thesis Argument</i>
8	The adjustments and shifts in the meanings construed by the lecturer and the students.	To examine the way 'causal' relations and predictive reasoning are construed in academic economics. To determine how the students responded to the lecturer's explanations of the economic model.	The semantic realisation of each element of the regulative and instructional discourses is made possible by Cloran's (1994) Rhetorical Unit (RU) analysis.

Table 4.1 Summary of the analysis of the spoken data organised according to features of interest, the aim of the analysis, and systemic functional linguistic and theoretical resources

The discussion now turns to a description of systemic functional linguistic theory, its system and its use.

Systemic functional linguistic theory: system and use

The relationship between language and context is not one of cause and effect, rather it is one of *realisation* and of *instantiations* of the linguistic system. *Realisation*, according to Halliday, (1978:39), is a relationship between context and meaning and between meaning and wording, i.e. between the semantic system and the lexicogrammatical system and also between the semantic system and higher-level semiotic behavioural system. As Halliday (2004:24) explains,

... when we analyse a text, we show the functional organisation of its structure; and we show what meaningful choices have been made, each one seen in the context of what might have been meant but was not. When we speak of structural features as ‘realising’ systemic choices, this is one manifestation of a general relationship that pervades every quarter of language. Realisation derives from the fact that a language is a stratified system.

Each of these systems is a system of meaning potential, ie, a range of meaning choices that can be made by a speaker on any particular occasion. The linguistic system can be viewed therefore in terms of particular *instantiations* of the system, ie, texts. The system–instantiation relationship is explained by Halliday (1992:26) as an analogy to climate and weather,

The climate and the weather are not two different phenomena. They are the same phenomena seen by two different observers, standing at different distances – different time depths ... So it is also with language: language as system, and language as instance.

In this respect, language is unique among modes of expression; it operates simultaneously, both in general and in particular.

The relationship between text and context, Halliday (1978:140) observes, is best exemplified in conversations in which there is a spontaneous interchange of meanings. It is in such contexts “that reality is constructed”. Conversation typically relates to the immediate material environment in ways that are perceptible and concrete, whereas other texts, particularly written texts, depend on levels of symbolic interpretation.

Written texts create their own immediate context of situation. Hence, the task of retrieving congruent and mundane meanings dialogically from the written mode “is a complex and technical operation”, particularly for students for whom the process is new, and if the written discourse is highly metaphorical.

Contextual variables: field, tenor and mode

In the systemic functional model, three kinds of meaning – referred to as contextual variables - intervene at the level of semantics between lexicogrammar and context in any text or language event. The contextual variables are 1) Field 2) Tenor, and 3) Mode. Field construes what is being done; Tenor construes who is doing it; and Mode concerns the part language plays in the interaction.

1) Field of discourse

Field refers to the nature of the activity taking place and the actions that the participants are engaged in. The nature of the activities can include language as ancillary to the primary activity, and to activities which are constituted entirely by language. Halliday (1978:143) explains field as,

... everything from, at one end, types of action defined without reference to language, in which language has an entirely subordinate role, various forms of collaborative work ... through intermediate types in which language has some necessary but still ancillary function ... to types of interaction defined solely in linguistic terms.

In most contexts, there is both a first order field and a second order field, as noted in Chapter 2. The first order field is the social activity taking place, and the second order field is the ‘subject matter’ that the activity is concerned with. The analogy of a tennis match can be used to explain, according to Halliday and Matthiessen, (2001:321), the concept of the two orders of field. The tennis match constitutes the first order field being the whole of the social action, any language associated with the match is ancillary and only part of the action. A discussion which might follow the tennis match, about the match, then constitutes the first order field. The discussion is now the whole of the

social action, whereas the tennis match which has become the subject matter of the discussion now constitutes the second order field.

Models of dialogic learning, as discussed in Chapters 1 and 2, proceed from the premise that students' development of understanding takes place along the material action-reflection or spoken-written continuum, ie, that the "subject matter" construed in students' eventual use of reflective metaphorical and abstract language originates in first order material activities or by reference to mundane contexts and physical activities. Economic discourse, however, begins to theorise at higher levels of abstraction, ie, as second order reflection. Rather than shifts from material activities toward metaphor, including generalisations, abstractions and technicality, such as *I'm working* → *we're working* → *work* → *labour*, Wignell (1998:312) observes, economic discourse begins at the most abstract level (*labour*) and shunts back and forth between highly restricted fields depending whether it is used to refer to *work* in general or *labour* in the abstract.

The further encoding of the field, or subject matter, in visual images and symbolism permit easy interpretation of meaning and relations for specialists. For novices, on the other hand, the correspondence between symbolic elements of the field construed in the verbal, visual and symbolic resources may not be so easily realised.

2) Tenor of discourse

Tenor of discourse refers to who is taking part and the roles and statuses of the participants. Again, Halliday (1978) points out, there is a distinction between a first and second order in relation to role relationships. First order social roles are defined without reference to language – "all social roles in the usual sense of the term are of this order". Second-order social roles are defined by the linguistic system – "these are the roles that come into being only in and through language, the discourse roles of the questioner, ... responder, contradicter and the like" (p.144).

The tenor relationships between the tutorial participants in this study were various. Unsurprisingly, a hierarchical relationship existed between the lecturer and students, and a seemingly more equitable relationship existed between the five students, although this may not have been entirely the case. While it is outside the scope of this research, it

is worth mentioning that a tension existed in the relationship between See, the only male student in the group, and the women in the group, Li, Cin and Tiff. All twenty-one students in the class deferred to See who took on a quasi student representative role for the entire group. When working in this small group, See often had different interpretations of the task than the others. Initially Li, Cin and Tiff used quite polite strategies to counter his interpretations. However, over time an irritability crept into their rebuffs and finally humour at See's expense, for example,

turn mess interactant

411	709	Li	<i>I want to say there's er one thing</i>
	710	Li	<i>there's a zero demand</i>
	711	Li	<i>[do] you know what?</i>
412	712	See	<i>what?</i>
413	713	Li	<i>[do you] know who has that?</i>
	714	Li	<i>See!</i> [students laugh] [inaudible repartee]

excerpt from Text 6

3) Mode of discourse

The mode of discourse refers to the role language plays in relation to field and tenor. This includes the symbolic organisation of the text, ie, whether the text is spoken or written, or both; its function in the context; and the status of the text (Halliday & Martin, 1993:33). Importantly, mode extends to the range of semiotic functions that the text is serving. Semiotic functions include the second order rhetorical modes of exposition, persuasion, description etc. Second-order modes are defined by reference to language “and depend for their existence on the prior phenomenon of the text” (Halliday, 1978:145).

In summary, contextual variables in this study are constituted by:

the field of the tutorial discussion which is an exploration of knowledge by students in the social sciences, in particular, in economics. The ‘subject matter’, ie, second order field, is equilibrium as realised in demand and supply theory and interpreted in the model of parallel importing. The long-term goal is the development of students’ understanding and application of economic theory. The short term goals are for students to: a. draw a supply and demand diagram, and b. use the diagram as “evidence” to explain the effect on supply and demand in the example of parallel importing of CDs;

the tenor relationships are hierarchical between the economics lecturer and the students, and somewhat a more equal status between the students themselves. The social relations, however, vary during discussions between the economics lecturer, as specialist, and students as novices; and between the students on their own as they attempt to scaffold or contest each other’s understanding;

the mode is overwhelmingly phonic with visual contact, with reference to a visual image (a demand and supply diagram); the interactions are spoken and dialogic.

Metafunctions: ideational, interpersonal and textual

The systemic functional model recognises that the contextual variables, field, tenor and mode, correlate respectively with three broad functions of the language. Although the pairs are not mutually predictive, field correlates with interpreting experience, ie, the ideational metafunction; tenor with constructing social roles and identities, ie, the interpersonal metafunction; and mode with doing these things simultaneously in a coherent manner, ie, the textual metafunction. The three metafunctions lie both in the grammar and in the semantic stratum: the ideational is constituted by both the experiential which construes a model of experience and the logical which construes logical relations; the interpersonal enacts social relationships, and the textual metafunction is concerned with creating relevance to the context (Halliday, 1994).

While each metafunction refers to distinct kinds of meaning in each clause, they are not separate or constrained. Indeed, the important rhetorical activity in economic discourse examined in this investigation, viz, predictive reasoning, will be seen to involve primarily the ideational and textual metafunctions. The relationship between them, as constructed in systemic functional linguistic theory, is indicated in Figure 4.1 below, taken from Halliday and Matthiessen (2001:13), which attempts to display the interface between each component, with the textual metafunction oriented towards both the ideational metafunction and the interpersonal metafunction,

NOTE: This figure is included on page 113 of the print copy of the thesis held in the University of Adelaide Library.

Figure 4.1 Three metafunctional components of the grammar (Halliday and Matthiessen, 2001:13)

Interconnections between the three metafunctions: an overview

By demonstrating the interconnections between the lexicogrammatical features of the three metafunctions: ideational, interpersonal and textual at the level of clause (Halliday, 1994:34) in Figure 4.2, it is possible to see the different patterns of meaning simultaneously,

	<i>we</i>	<i>drew</i>	<i>the wrong diagram</i>
experiential	Actor	Process:material	Goal
interpersonal	Subject	Finite	Complement
	Mood		Residue
textual	Theme	Rheme	

Figure 4.2 Three metafunctions showing the tripartite semantic structure of language

In the *experiential metafunction*, the clause has meaning as a representation, a construal of some process in ongoing human experience. The Actor is the active participant in the experiential process. It is the element the speaker portrays as the one who did the deed,

<i>we</i>	<i>drew</i>	<i>the wrong diagram</i>
Actor	Process	Goal

In the *interpersonal metafunction*, a clause has meaning as an exchange, a transaction between speaker and listener. The Subject is the element the speaker makes responsible for the validity of what she/he is saying,

<i>we</i>	<i>drew</i>	<i>the wrong diagram</i>
Subject	Finite	Complement
Mood		Residue

In the *textual metafunction*, a clause has meaning as a message, ie, as a quantum of information. The textual metafunction organises the ideational and interpersonal meaning to be coherent within the text. The Theme is the point of departure for the message. It is the element the speaker selects for ‘grounding’ what she/he is going to say. The Rheme is the remainder of the clause, that part which develops the Theme (Halliday, 1985:38),

<i>we</i>	<i>drew</i>	<i>the wrong diagram</i>
Theme	Rheme	

Ideational metafunction

The ideational metafunction has two components:

- i. the experiential metafunction, and,
- ii. the logical metafunction.

The experiential concerns the representation of participants and activities, and the logical concerns the representation of the relations between one process and another. Together, the ideational metafunction construes our experiential world.

i. Experiential metafunction

It is by way of the experiential metafunction that the grammar enables an interpretation of the processes of human experience,

In the experiential ... metafunction, the grammar takes over the material conditions of human existence and transforms them into meanings (Halliday, 1996:7)

Experiential meanings tend to be located at definable locations in the grammatical structure (Halliday & Matthiessen, 2001:527). The grammar does this by deconstructing the process into component parts of which there are three kinds: first the process itself, secondly certain phenomena construed as participants in the process, and thirdly, other phenomena that are associated with the process circumstantially (Halliday & Matthiessen, p.511). These component parts, known collectively as transitivity, constitute the core of the experiential component of the ideational metafunction, as shown in the following example,

Clause rank	<i>the students</i>	<i>are drawing</i>	<i>demand and supply curves</i>	<i>on rough paper</i>
	Participant	Process	Participant	Circumstance
Group/phase rank	Nominal group	Verbal group	Nominal group	Prepositional phrase

The system of transitivity represents a paradigm of possible meaning choices, each of which has particular realisations. Possible meaning choices in the transitivity system are the different process types. These processes include: material (processes of doing), mental (processes of sensing), verbal (processes of saying), behavioural (between material processes and mental processes), existential (processes of existing), and relational (processes of being).

Experiential/metaphorical drift in economic discourse

Generally speaking, the application of dialogic learning assumes that students will acquire congruent realisations before metaphorical ones construed in their written texts. This relationship reflects the assumption that unmarked realisations in spoken language are congruent - that the unmarked processes in spoken language construe mental, material and verbal activity. The model then assumes that unmarked realisations in written academic language push experiential 'content' into metaphorical meaning, and processes shift to become relational and material processes, for example,

congruent

*Australian musicians feel largely ignored //
mainly because music shops sell mostly imported CDs.*

= mental
= material

*The government can limit the number of imported CDs //
so Australian musicians can sell more of their music here.*

= material
= material

*Parallel importing is a protection mechanism
for industries, such as the Australian music industry.*

= relational



metaphorical

Metaphoric shifts or ‘semantic realignments’ from spoken to written academic modes are encapsulated in Halliday and Matthiessen’s (2001:588) description,

... there is a considerable loss of ideational information as one moves from the congruent mode to the metaphorical mode: grammatically, a clause complex is compressed into a clause, and the clauses that are combined are compressed into nominal groups. ... The possibility of leaving participants implicit means in practice that Sensers are effaced in the scientific model and, as a result, the consciousness we experience in the living of life is also construed out of the picture, being replaced with unconscious processes not accessible to our experience.

The drift towards ‘things’ and metaphorisation is in general a shift towards the experiential (Halliday & Matthiessen, 2001:264) so that phenomena which began possibly as something else can become nominalised and presented as abstract participants. As nominalisations, abstract participants are able to be grouped into general classes and categories, they can be measured, and grouped into taxonomies, i.e. into a form of ‘objective’ knowledge that can be systematically organised and made explicit. However, as Halliday and Matthiessen (p.545) point out, “the greater the degree of metaphor in the grammar, the more the reader needs to know in order to understand the text”.

Unlike science, economics as an *a priori* theory proceeds from a hypothetical, idealised and generic base, rather than any tangible origins or “the consciousness we experience in the living of life”. The discourse construes an interplay between generalisation, abstraction, technicality and grammatical metaphor with few or no congruent participants, as Wignell (1998:313) observes,

This abstract construal of experience precedes the introduction of the technicality. Those things made technical have, logogenetically and phylogenetically, most often, been initially realised and developed abstractly, principally through generic abstraction. ... This intervening level of abstraction is one feature that appears to distinguish the discourse of social science from that of science. That is, through its initial construal of an abstract ‘world’ and a subsequent shift into a technical construal, social science (economics) makes the abstract technical.

The following discussion will examine briefly how economic discourse uses generalisations, abstraction, grammatical metaphor, lexicogrammatical metaphor and technicality experientially. It should be noted these distinctions are not always clear in the linguistics literature.

Generalisation

Generalisation refers to a class of common things, and, as Halliday & Matthiessen (2001:615) observe, it is a prerequisite for the semiotic construal of experience. The use of generalisation, ie, naming general classes rather than specific individuals, constructs the ideation base,

See and Li are international students \Leftrightarrow *International students*.

Generalisation opens ways to:

i. construct hierarchies of classes

The majority of international students choose to study commerce and engineering.

ii. combine them into more complex elements

International student fees contribute 30% of the annual income of many Australian universities.

ii. become a participant in definitions and explanation sequences

International students now make up 25% of the Australian university student population.

iii. be negotiated in dialogic exchanges

Do you think there'll be downturn in international student enrolments in the near future?

Abstraction

Broadly, the use of abstraction, Martin (1993:220) explains, is a means to *interpret* the world from a nominal point of view, in contrast to the use of technicality which goes further by *reconstructing* the world. By coding doings as if they were things, abstraction

condenses people and processes into identifiable things, eg, *people want to buy more = demand*. Several functions are then possible, for example,

i. to be acted upon

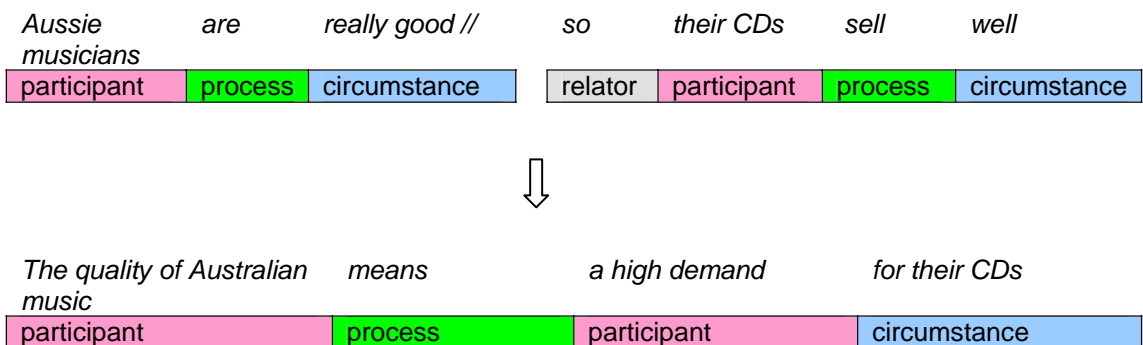
the government will limit demand

ii. to act on other abstractions

demand will outstrip supply

Grammatical metaphor

Grammatical metaphor is more than a process of rewording, the shifts occur in the grammatical patterning. The process of grammatical patterning involves a shift in rank scale from clause complex to clause and/or clause into nominal groups (Halliday & Matthiessen, 2001:230; Halliday, 1985; Halliday & Martin, 1993). The following example shows the construal of grammatical metaphor to illustrate the ‘downwards’ rank shifting from two clauses and the processes (verbs) to nominalisation in one clause,



In this process, the function of the verb is to express the relationship between the nominalised processes. Grammatical metaphor is therefore an important element in explanations. The whole of the semantic content is taken over by the nominal elements (Halliday, 1988:14), and even the causal relations become nominalised as ‘the cause’ and ‘the proof’ (p.18), for example:

clause complex	<i>a</i> happens, so <i>x</i> happens
clause	happening <i>a</i> causes happening <i>x</i>
nominal group	the cause of happening <i>x</i> by happening <i>a</i>

Lexicogrammatical metaphor

A further form of ‘metaphorical drift’ in economic discourse is that of lexicogrammatical ‘spatial’ metaphor. Economic discourse, as recognised by Halliday and Matthiessen (2001:276), construes quantities in terms of economic things, either by their location = *comparable phases in the cycle*; movement = *a drop in the money stock*; or their growth = *three most recent expansions*; or shrinkage = *such a decline in money stock*. These lexicogrammatical metaphors can be further metaphorised by grammatical metaphor, eg, ‘sharp decline’ → ‘decline sharply’. The metaphor ‘sharp decline’ can then take on participant roles, as in *the sharp decline pushed the stocks down*.

Lexicogrammatical metaphors as ‘spatial’ metaphors lend themselves to a semiotic cross-over between the different modes, in particular, between the verbal text and visual images, as shown in the following excerpt from Text C in the tutorial data. Here, the economics lecturer instructs the students how to represent the effect of the parallel importing symbolically in the demand and supply diagram. Lexicogrammatical metaphors of quantity and movement are evident in the lecturer’s explanations,

turn	mess	interactant	
153	252	Eco lecturer	<i>it assumes you start with your thirty dollar equilibrium here your steep demand curve and your flat supply curve</i>
	253		<i>add in a lower overseas price twenty dollars</i>
154	254	students	<i>hmhm</i>
155	255	Eco lecturer	<i>something like that</i>
156	256	students	<i>hmhm</i>
157	257	Eco lecturer	<i>something like that</i>
158	258	students	<i>hmhm</i>
159	259	Eco lecturer	<i>then show the effect of parallel importing pushing that price back up to equilibrium</i>
	260		<i>and then it says four effects</i>
	261		<i>and those are the same as a tariff</i>
	262		<i>price goes up</i>
	263		<i>quantity supplied rises</i>
	264		<i>quantity demanded falls</i>
	265		<i>and imports fall to the right amount</i>

excerpt from Text C

Technicality

Technical terms define and name phenomena according to a specialist's point of view. The terms are then available to classify and explain the experiential world. Technical language has "a meaning specific to that (specialist) field and codes the way in which that field classifies phenomena and describes what happens to them ... it organises [the] world in a different way" (Wignell, Martin & Eggins, 1989:369).

In establishing the technical term, definitions use the relationship between Token and Value to refer to the participants in a relational identifying clause. The function of Token and Value is to identify the target thing in two ways, by,

- a. specifying its form, how it is organised; and,
- b. specifying its function, how it is valued.

The Token is realised by the sign, name, form, holder, occupant and the Value specifies the meaning, referent, function, status, role (Halliday, 1985:115), for example,

Free trade is *the amount of imports [[that can come into the economy without a parallel importing ban]]*

Token	process:identifying	Value
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Technical terms, as in this example, can be derived through grammatical metaphor. In this instance, the more congruent process = *can be imported freely* is conflated through nominalisation into the technical term ‘free trade’. The Value in this example is a complex nominal group from which an extensive quantity of information is distilled into one term,

It is not ... either a simple translation from commonsense into technicality, nor of technicality into further technicality. Typically these nominal groups in the Values have as their Thing (or Head in a logical analysis) either an abstraction or a grammatical metaphor. Whether treated as abstractions or metaphors these Things are initially derived through metaphorical realisations of more congruent possibilities...(Wignell, 1997:218)

The naming process makes explicit that the term is being set up as technical. This can be done by using either a projecting or non-projecting naming process, for example,

Economics lecturer	<i>then when they say well we'll only allow this amount of imports in it creates a shortage we'll call it <u>parallel importing</u></i>
--------------------	---

Once technicalised, terms, such as those in the following texts, *commercial importation*, *non-commercial importation* and *personal non-commercial importation* can become part of taxonomies by defining, explaining and exemplifying the phenomenon of *parallel importing* according to principles of superordination (type or kind of something: class/subclass) or composition (whole/part relationship),

<p><i>Parallel importing is the commercial importation of legitimate (non-pirate) copyright goods without needing permission from the Australian copyright owner. The Copyright Act 1968 regulates and restricts commercial importation of copyright goods. Personal non-commercial importation of copyright products is permitted.</i></p>	<p>Defining</p> <p>↓</p>
<p><i>The Copyright Act was amended in July 1998 to allow the parallel importation of sound recordings.</i></p>	<p>Explaining</p> <p>↓</p>
<p><i>Music retailers can now choose from a wider range of international suppliers.</i></p>	<p>Exemplifying</p>
<p>Ref: Australian Government – Dept of Communication, Information Technology and the Arts http://www.dcita.gov.au/ip/parallel_importation</p>	

A transitivity analysis of the experiential metafunction for participant roles, process types and circumstances construed in the spoken data in this study indicate similar findings to Wignell (1998:313). That is, the interactants construe meaning metaphorically using generalisations, abstraction and grammatical metaphor. However, in the preliminary observations of the spoken data, it is evident that participant roles are more various than in written discourse. This is evident in the peripatetic shifts between metaphorical meaning and other elements, particularly: a. the congruent domains of interpersonal *we* and *you*, and, b. exophoric reference to the visual mode.

a. the use of *we* and *you*

In spoken language, as Halliday (1990) acknowledges, the roles of speaker and listener undergo constant changes with overt intrusion of *I* and *you* into the texts. The following excerpt from Text C exemplifies an experiential feature of the economic lecturer's interactions throughout the tutorial discussion. Overwhelmingly, *we* and *you* occupies the first participant position and subject, as Halliday predicts. The excerpt shows the lecturer's response to See's question regarding the relationship to equilibrium and the model of parallel importing,

turn	mess	interactant	
160	266	See	<i>er do you mean that ah um by having parallel importing ah it's possible</i>
			<i>to push it to the equilibrium price?</i>
161	267	Eco lecturer	<i>no no parallel um if we had parallel importing</i>
162	268	See	<i>hmm</i>
163	269	Eco lecturer	<i>we would get imports QS to QD</i>
	270		<i>whatever we did with supply in Australia would be imported</i>
	271		<i>the gap the shortage</i>
	272		<i>then when you ban this parallel importing</i>
	273		<i>you cause a shortage of CDs</i>

excerpt from Text C

The role played by reference to *we* and *you* in the tutorial discussion will be revisited in Chapter 5 (see *Multiple roles of 'we' and 'you' in the spoken data*).

b. the demand and supply graph

The role of graphs in written economic discourse, Wignell (1997:187-188) observes, is to exemplify and explain economic phenomena, “most of the exemplification and much of the explanation is done through graphs”,

Where ‘proof’ is mathematical, explanation is also frequently achieved visually by using graphs ... accompanied by short written explanations ... The graph ... is a kind of universal example. The written explanation accompanying the graph represents a kind of distillation from the graph back into the text.

The economics textbook (McTaggart et al., 1996) which was used by the student cohort in this study construes diagrams and graphs variously as participant or circumstance depending on whether the authors are defining, explaining or exemplifying economic phenomena. For example,

i. visual display (ie diagram) as participant

Figure 4.6 illustrates the resulting shift in the supply curve.

ii. elements of diagram as participant

If the supply curve is S_o , a rise in the price of the good produces an increase in the quantity supplied.

iii. diagram and elements of the diagram as circumstance

*If the price increases there will be a movement **along the supply curve from point c to point d in Figure 4.5.***

A transitivity analysis of the spoken data to be presented in Chapter 5 will show that any participant role played by the supply and demand graph is minimal. Its role appears to be overwhelmingly circumstantial or exophoric reference, ie, in the material environment.

ii. Logical metafunction

The logical metafunction refers to relations between one process and another, most typically, in a clause complex. As our experience leads from one thing to another, the nature of the relationship may vary between one process and another. Relationships could include sequences in time, in cause and effect, reason and outcome, prediction and consequence, as in economic reasoning.

Predictive reasoning in economic discourse interprets the consequences of economic models using, in part, the logical metafunction evident in clause complexes which arrange the outcomes and consequences of the predictions and conjectures. In fact, such sequences have historical precedents in Adam Smith's conceptions of connecting economic phenomena to "the real chains of Nature ... to bind together her several operations ... all closely connected together, by one capital fact" (Adam Smith qtd in Piel, 1999:162& 174).

There are two kinds of logical relationships between clauses: the first is *expansion* which includes the meanings realised by conjunctive relationships, such as 'and' and 'or' and 'so', and the second is *projection* which includes direct and indirect speech and thought, such as 'means' and 'assumes' and 'think'. For example,

a. expansion

*we drew the wrong diagram
so we can't use it*

b. projection

*we thought
it was the same diagram as a tariff*

a. expansion

With *expansion*, there are three ways to expand a clause: elaborating it; extending it; and enhancing it (Halliday, 2004:395). In elaboration, one clause elaborates on the meaning by restating it, clarifying it, or adding a comment etc. The two clauses are often juxtaposed making it difficult to determine if the clauses form a clause complex. In written text, the clauses can be linked by a colon, or abbreviations such as *i.e.*, *e.g.*, and *viz* (2004:397). In extension, one clause extends the meaning of another clause by adding new information, replacing information or adding an alternative. Conjunctions include ‘and’, ‘but’, ‘or’, ‘whereas’, ‘while’, ‘except that’ (pp.405). In enhancement, one clause enhances the meaning of another by qualifying by reference to time, place, manner, cause or condition. Cohesive conjunctions include ‘so’, ‘because’, ‘therefore’, ‘while’, ‘although’ ‘if’ (p.410).

b. projection

Projection concerns the relations between a mental or verbal clause and two levels of projected content, ideas and locutions. The clausal relation in projection means one clause is projected onto the plane of second order semiotic phenomena, so that “it enters the realm of metaphenomenon (meanings and wordings)” (Halliday & Matthiessen, 2001:106). Metaphenomenon consists of a projecting clause α and a projected clause β . The projecting clause comprises a “projecting participant” (e.g. *Consumers*) and a “projecting process” (either a verbal process *states*, or a mental process *believes*), for example,

Consumers state that the price of CDs is too expensive

Consumers believe that the price of CDs is too expensive

Participant	Process: verbal mental	Proposition (idea)
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α ————— β

Another grammatical variation in metaphenomenal discourse involves the metaphenomenal process of a verb (e.g. *state*, *believe*) transformed as a noun (e.g. *statement*, *belief*). Clausal realisations of transforming verbal processes into nominal ‘things’ involves the process of grammatical metaphor.

Preliminary observations of the logical metafunction in the spoken data

a. use of expansion

A feature of the interactions in the tutorial dialogue is the number of questions posed by the students to the lecturer and to each other. The questions broadly seek either to confirm their interpretations or to apprise reasons, methods, etc. in relation to parallel importing. A deal of the discussion focuses on reasons in response to *why*. As Hasan (1992a:269) observes,

The importance of *why* is not simply because it enters into a construction with reason; in fact *why* is criterial to any discussion of the structure of reasoning in as much as it can be justifiably regarded as the harbinger of reasons themselves.

The kind of reasoning offered in response to the students’ queries draw on both components of ideational metafunction: viz. experiential and logical, as well as the textual metafunction. When an interactant, in particular, the economics lecturer, infers some part of economic theory from some other part in a sequence of predictive reasons, then between the parts are relations such as condition, conjecture, prediction, reflection, conjunction and disjunction as each clause expands on the meaning of the first processes. For example, in the tutorial discussion the lecturer frequently construes the causal-conditioning relationship of enhancement in response to the students’ questions,

*if we had parallel importing
we would get imports QS to QD*

The following excerpt from Text B shows the lecturer's use of causal-condition-enhancement in her responses,

turn mess interactant

149	219	Eco lecturer	<i>because it(=parallel importing) won't allow all of those in</i>
	220		<i>but it will allow this little bit of imports in</i>
150	221	Li	<i>ooh</i>
151	222	Eco lecturer	<i>it bans some of the imports</i>
	223		<i>now if it banned all of the imports</i>
	224		<i>it would bring it back up here to equilibrium OK</i>

excerpt from Text B

As the lecturer's explanations become more congruent, from prediction–consequence sequences to narrative-like action sequences, as in the following excerpt from Text F, the logical relations between clauses includes extension using logical conjunctions of addition 'and' and adversative 'but', for example,

turn	mess	interactant	
307	536	Eco lecturer	<i>ten are allowed to be imported</i>
	537		<i>so that's seventy</i>
	538		but <i>we have eighty</i> ==
308	539	Li	== <i>ooh yes</i>
309	540	Eco lecturer	<i>people want to buy</i>
	541		<i>so what that</i> ==
310	542	Li	== <i>that</i>
311	543	Eco lecturer	<i>we're ten short</i>
	544		<i>so that starts to push the price up</i>
	545		and <i>as the price goes up</i>
	546		<i>brings more sellers into the</i>
	547		and <i>takes buyers out</i>
	548		<i>buyers can't afford this much</i>
	549		and <i>eventually</i> ==
312	550	Li	<i>ooh [another response to strong stress]</i>
313	551	Eco lecturer	<i>the price will stop rising</i>
	552		<i>when you get here to say twenty seven dollars</i>
314	553	Li	OK

excerpt from Text F

These features of the lecturer's explanations will be revisited in relation to predictive reasoning in the tutorial discussion in Chapters 7 and 8.

b. use of projection

The results of the analysis of the spoken data reveal that the economics lecturer uses only 9 instances of projection (out of 187 messages); the students use only 10 instances of projection (out of 452 messages). The processes construed by the lecturer are overwhelmingly verbal *say* (7); with only two mental projecting processes: *assume* (2), for example,

Turn 153	Economics lecturer	<i>then when they say well we'll only allow this amount of imports in it creates a shortage from there to there and there to there</i>
-------------	-----------------------	--

from Text B

The processes construed by the students are also overwhelmingly verbal, *say* (7); with only two mental projecting processes: *mean* (2), for example,

Turn 108	See	<i>I mean I mean base(d) base(d) on the parallel impor importing we don't have to think about those ah demands</i>
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from Text 4

The projecting participants referred to by the lecturer are divided between reference to:

- i. generic references to economists *we* (2) and *they* (2);
- ii. *I* as speaker (1);
- iii. *parallel importing policy [it]* (2);
- iv. *the government* (1);
- v. *the supply and demand graph* (1);
- and, vi. and one instance of an ambiguous *it*, referring either to the assignment question or application of the economic model *it assumes you start here*.

The projecting participants construed by the students shift between: i. *we* referring to the students themselves not the paradigm *we* (2); ii. *I* as speaker (2); iii. *you* in an interrogative to the lecturer *do you mean that ...* (1); iv. *the assignment question* (2); v. *economic theory* (1); vi. *the government* (1); and, vii. and one instance of collaborative projection between two students using an anticipated projecting clause, for example,

Li: *it's enough to say*

See: *that after we fix parallel importing it's not that the price will be () because it's something like it cuts down the shortages and we cut down the imports*

The minimal use of projection through the tutorial discussion may suggest that, despite the students' extensive questions, the theory and model were construed as non-attributed authoritarian canonical discourse.

There are no nominalised forms in the spoken data in contrast to Moore's (2002) findings in an examination of academic economic texts.

Metaphenomenon in economics textbooks (Moore, 2002)

As few studies have been carried out on academic economic texts to date within a systemic functional linguistic framework, Moore's (2002) investigation of metaphenomenon in economics, sociology and physics textbooks is of interest. The

purpose of Moore's study was to examine the frequency and type of agentive element (participants and processes) to determine the extent to which attributed propositions are those of individual scholars, schools of thought, conventional wisdom, as opposed to a non-attributed canonical form.

Two types of metaphenomenon were analysed by Moore: verbal and nominal. The most frequent instances of verbal processes in the sample economics textbook were *call* (10), *say* (5), *represent* (4), *define* (3), *conclude* (3)—as compared to sociology: *argue* (49), *see* (23) and *suggest* (14); and physics: *define* (12), *represent* (7), and *state* (7). The most frequently occurring nominal form of processes in economics textbooks were *concept* (7), *definition* (5), *model* (5)—as compared to sociology: *view* (18), *theory* (13), *perspective* (9); and physics: *law* (50), *definition* (7), *statement* (7). The conclusions drawn by Moore (pp.354 – 355) are that the most frequently occurring verbs and nominalised forms in the economic textbook indicate a form of “signification” (after Martin, 1992), ie, they establish certain concepts within the discipline. Unlike verbs, such as *argue*, which are concerned with the asserting of certain propositions about the world, as in the sociology textbook, the function of signification in economics discourse is to conventionalise certain modes of thinking, “ones that a disciplinary novice is more or less required to accept”.

Overall, reference to participants in the textbooks of the three discourses, according to Moore's (2002:356) findings, were either to i. individual scholars, ii. schools of thought, and iii. generic scholars. In the economics textbook these references were sparse. Only one reference was given to a discipline doyen (Keynes), and no reference to schools of thought. However, reference to generic scholars was treated in all instances as a single collective group – referred to either as *economists* (21), or self-referentially as *we* (22). This kind of metaphenomenon in the sample economics textbook, Moore (p.358) asserts, is a reflection of the paradigmatic unity that has been developed over time within the discipline of economics.

Interpersonal metafunction

The interpersonal metafunction constructs “our social relationships, both those that define society and our own place in it, and those that pertain to the immediate dialogic situation” (Halliday & Matthiessen, 2001:511). The meaning of the clause interpersonally is as an exchange of meaning, whereby it is also organised into an interactive event involving speaker and listener, as Hasan & Cloran (1990:74) observe,

... it is ... important to know whether someone is making a statement; whether that statement is in response to something said by someone else or not: whether the message is logically related to another as, say, effect is to some cause; whether it describes a voluntary action or one that is imposed by some external agency.

Social relations in formal education, for example, in tutorial discussions, means being able to negotiate the exchange of meanings, ie, being able to request information, to assert, explain, challenge, agree, contradict, offer, refuse etc. (Eggins, 1994). Such interactions are all instances of Vygotsky’s notion that intellectual growth is contingent on social interaction, as *outer speech*, before they are part of the individual’s inner make-up (Vygotsky, 1986:94).

Preliminary observations of the interpersonal metafunction in the research data

The simultaneous roles of the interpersonal and ideational metafunctions are suggested by two particular features in the spoken data. The first is the extensive reference to interactants *we* and *you* by the lecturer; the second is the large numbers of questions posed by the students. In university education, as noted in Chapter 2, the nexus between construing knowledge and interpersonal relations is frequently ignored; the view persists that the development of knowledge is dissociated from interpersonal considerations. The extensive use then of *we* and *you* and questions in the spoken data would appear to establish an interpersonal solidarity between the lecturer and students, as Christie (1998:161) observes in other classroom dialogue. However, both features of the interactions appear to be subject to a kind of canonical pressure from the nature of the discourse. In the data, two kinds of *we* have been recognised: *we* establishing

solidarity between co-present interactants, akin to Christie's finding; and *we* referring to the economic community. Indeed, it is this latter category, ie, the impersonal community *we* and *you*, which was used most often throughout the tutorial discussion. As in the written discourse of economics textbooks, this reference to *we* and *you* is, perhaps, as Moore (2002) claims, a reflection of the paradigmatic unity that has been developed over time within the discipline of economics rather than the establishment of a sense of solidarity in the immediate context between lecturer and students.

From an interpersonal perspective, the students' questions also come under a similar canonical pressure. The students' extensive use of questions contrast with the findings of Sinclair & Coulthard (1978) on classroom talk. Their findings characterise the principal inquirer to be the teacher. By contrast, it is the students who were the principal inquisitors throughout the tutorial discussion. Indeed, the opportunities for students to ask questions are fundamental to the aim of dialogic learning and to 'appropriation' and 'contingency' advocated in models of scaffolded learning. Posing questions offers students possibilities for seeking reasons, methods, consequences etc and for clarifying the accuracy of their understanding. Hearing others' questions and responses enables collaborative development of knowledge. Importantly, students' questions are also an opportunity for the lecturer to hear students' confusions and to repair their understandings.

From a Vygotskian perspective, a lecturer's answers need to be contingent on her/his gauging of the students' comprehension. The guidance needs to march ahead of the students' development, as Vygotsky (1986:188) deemed, and lead it. In turn, students' responses and follow-up questions are valuable indicators of any difficulties. However, while a question can be treated as a point of departure for providing information, according to Hasan & Cloran (1990:80), the information offered may far exceed what was asked for,

...while it may be true that most questions are paired with an answer, the term 'answer' itself is not invariable; the kind and extent of information received can differ a good deal.

This is particularly evident in this data. The lecturer's monologic responses to students' questions throughout their discussions, particularly during their first discussion, again reflect the monologic written discourse of economic principles and theories as construed in students' textbooks.

The following excerpt from Text C offers a preliminary view of the potential challenges faced by the lecturer and students in their attempts to negotiate the meaning of the economic model,

turn	mess	interactant	
160	266	See	<i>er do you mean that ah um by having parallel importing ah it's possible to push it to the equilibrium price?</i>
161	267	Eco lecturer	<i>no no parallel um if we had parallel importing</i>
162	268	See	<i>hmm</i>
163	269	Eco lecturer	<i>we would get imports QS to QD</i>
	270		<i>whatever we did with supply in Australia would be imported</i>
	271		<i>the gap the shortage</i>
	272		<i>then when you ban this parallel importing</i>
	273		<i>you cause a shortage of CDs</i>
	274		<i>Australians won't produce them</i>
	275		<i>the price is too low for them to produce</i>
164	276	See	<i>hmm</i>
165	277	Eco lecturer	<i>we can't bring them in from overseas</i>
	278		<i>we'll have a shortage illustrated by that gap there and that gap there</i>
166	279	See	<i>hmm</i>
167	280	Eco lecturer	<i>when we have that shortage</i>
			<i>that pushes the price back up towards the thirty dollars</i>
	281		<i>now it won't be right up to thirty dollars</i>
	282		<i>but say we had thirty dollars here twenty dollars here</i>
	283		<i>it might push it up to</i>
168	284	Cin	<i>twenty five</i>
169	285	Eco lecturer	<i>well it says seven dollars here</i>
	286		<i>but [it] might push it up to twenty seven dollars something like that</i>
	287		<i>so a tax or a or a parallel importing ban does the same thing</i>
	288		<i>but for different reasons</i>
	289		<i>a tax doesn't</i>
	290		<i>because it puts an extra charge on the good</i>
	291		<i>a parallel importing ban does it</i>
	292		<i>because it um causes a shortage of the CDs</i>
	293		<i>understand?</i>

excerpt from Text C

In response to See's question the lecturer reverts to monologic delivery of information rather than any negotiation of meaning. The only indication of the students' presence is See's minimal feedback *hmm* (3) and one collaborative offering by Cin *twenty five*. The

limited interpersonal negotiations are also evident in the lecturer's ritualised rhetorical question *understand?* without pausing for student responses.

Textual metafunction

The textual metafunction enables the other metafunctions to operate simultaneously – it “not only construes and enacts our reality but also becomes part of the reality that it is construing and enacting” (Halliday & Matthiessen, 2001:512). The textual metafunction enables the speaker to focus on salient information in the clause given its purpose and its context. As Halliday & Matthiessen (2001:12) explain, the textual metafunction,

... provides the resources that enable the speaker to produce contextualised discourse and to guide the listener in interpreting it. These include resources for engendering a wide variety of diverse rhetorical structures, for differentiating among the different values and statuses of the components of the unfolding text, and for ongoingly expanding the text so as to create and maintain the semiotic flow.

The textual metafunction is second order in that its function is an enabling one, as Halliday & Matthiessen (2001:398) explain,

This second order, enabling nature of the textual metafunction is seen both at the level of context, where mode (the functions assigned to language in the situation) is second-order in relation to field and tenor (the ongoing social processes and interactant roles), and the levels of content – the semantics and the lexicogrammar, where the systems of THEME and INFORMATION, and the various types of cohesion, are second-order in relation to ideational and interpersonal system of TRANSITIVITY, MOOD, and the rest.

Historically, the evolution of economic discourse involved a number of ‘semiotic shifts’, as Wignell (1998:306-7) observes, involving the ideational and textual metafunctions. In Halliday's (1993b:66) schema of conjunctive relations, initially, conjunctions were used to show causal relations between clauses (eg *because*). Later, the verb represented the causal relationship (*causes*), and, finally the causal relationship is nominalised (eg *the cause*), for example,

- 1 externally:
 from *a* happens; so *x* happens
 because *a* happens, *x* happens
 that *a* happens causes *x* to happen
 happening *a* causes happening *x*
 to Δ happening *a* is the cause of happening *x*
- 2 internally:
 from *a* happens; so we know *x* happens
 because *a* happens, we know *x* happens
 that *a* happens proves *x* to happen
 happening *a* proves happening *x*
 to Δ happening *a* is the proof of happening *x*

Ref: Halliday 1993b:66

The historical texts of Hobbes', for example, construe an elaborate chain of deductive causal reasoning in which he argues that people need a sovereign government. His argument builds a field by drawing analogies with the physical sciences of bodies in motion. The chain of causal reasoning is based primarily on conjunctive relations of implicit internal consequence. The evolution of economic reasoning in the texts of Adam Smith and David Ricardo relies less on internal conjunctive relations and more on internal relations of manner from 'why' to 'how'. Argument in these texts is confined to the arrangement and organisation of the field which is used to reconstrue the 'world' textually, as Wignell (1998:307) explains,

As the logical declines in importance the textual metafunction increases in prominence in text organisation. It does this through interplay with the experiential component of the ideational metafunction. As the text(s) become increasingly technical in their construal of experience, the technicality not only increases in quantity but also becomes more textually prominent.

Preliminary observations of the textual metafunction in the spoken data: construal of prediction – consequence relations

Textual meaning in predictive reasoning is constructed primarily by Theme and Rheme. Both elements contribute to the discursive flow of information in the construal of predictive reasoning. The Theme is the prominent element in the clause, defined by Halliday (1985:39) as "the starting-point for the message: it is what the clause is going to be about". The Theme typically contains familiar or "given" information "i.e. information which has already been mentioned somewhere in the text, or is familiar

from the context” (Eggins, 1994:275). The Rheme is the remainder of the clause, that part in which the Theme is developed (Halliday, 1985:38). The Theme–Rheme system is mapped textually with the simultaneous message line of Given and New. The typical pattern between clauses is to create a progressive pattern from one to the other, “from a speaker-Theme, which is also ‘given’ (intelligence already shared by the listener), to a listener-New” (Halliday, 1993b:90).

The Theme-Rheme system links experientially with participants, processes or circumstance and the interpersonal system of mood, in that the Subject of a declarative clause functions also as the Theme (Halliday, 1998:203). Of interest to this study is Halliday’s (1993b; 1998) reference to the rhetorical effect of ‘backgrounding’ in respect of Theme, and ‘foregrounding’ in respect of Rheme/New. As Theme typically refers to something that has gone before, in Halliday’s (1993b:60) terms, it is *backgrounded*, ie, the information will move from there to the New information which is *foregrounded*. For example, *the importation of a good at a cheaper price* in the first Rheme/New information in the following text is foregrounded as it signals the subsequent Themes, *These imports, the goods, and Goods,*

<i>Theme</i>	<i>Rheme/New information</i>
<i>Parallel importing</i>	<i>is the importation of a good at a cheaper price from the world market.</i>
<i>These imports</i>	<i>are often outside the authorised importer channels.</i>
<i>Often, the goods</i>	<i>are carried by ordinary tourists.</i>
<i>Goods</i> <i>that do not incur heavy transportation costs</i>	<i>are most at risk from parallel imports.</i>
<i>This practice</i>	<i>is generally opposed by authorised retailers,</i>
<i>because they</i>	<i>are not allowed to source good from parallel importers.</i>

‘Peripatetic’ Themes and ‘Rhematic progression’ in the spoken data

Unlike written economic discourse in which a message Theme could be “the summation of a fairly complex argument” (Halliday, 1993b:60), the spoken interactions throughout the tutorial, illustrated in the following excerpt from Text D below, show typical ‘peripatetic’ shifts between different experiential domains evident here in the topical Themes: *this - this world price – which – we – this small country*,

mess.	speaker	Theme		Rheme
		textual	Unmarked topical	
455	Eco lecturer		<i>this</i>	<i>is the demand and supply in Australia you see</i>
456		<i>and</i>	<i>this world price</i>	<i>is set by the demand and supply in another country</i>
457		<i>which</i>		<i>is just below this</i>
458		<i>now</i>	<i>we</i>	<i>have this</i>
459		<i>because</i>	<i>we</i>	<i>assume like the tariff model</i>
460			<i>that we</i>	<i>'re a very small country</i>
461		<i>alright so</i>	<i>this small country</i>	<i>subsequentially lends to this horizontal supply curve</i>

excerpt from Text D

It is noteworthy in the spoken data, that experiential domains and participants throughout the discussion are often unrelated to any Rhematic meaning in preceding messages. Rather than “Thematic summations”, the lecturer’s explanations, as in this excerpt from Text D, show only one instance of progression from Rheme to Theme (messages 459 to 460) *a very small country - this small country*. A feature of the interactions is that significant theoretical content is construed in the Rheme of each message, it is rarely ‘foregrounded’ or even ‘backgrounded’ in any progression between the Theme and Rheme.

Predictive reasoning in economic discourse is most often a process of deductive reasoning; from prediction or conjecture to consequence or outcome. Without an explicit Theme–Rheme progression, confusions may arise for learners and non-specialists. In spoken dialogue, without opportunities to reflect back on the progression of information, the accumulation of various predictions and consequence may not have

been retained. This is evident in another example from the research data shown in the excerpt below from Text B,

turn	mess	interactant	
153	229	Eco lecturer	<i>when they say QF to QD is the amount of imports that come into the economy without any parallel importing</i>
	230		<i>that's just (a) free trade right?</i>
	231		<i>then when they say well we'll only allow this amount of imports in</i>
	232		<i>it creates a shortage from there to there and there to there</i>
	233		<i>so we've got two sides of the shortage a shortage there to there</i>
	234		<i>what does a shortage do?</i>
	235		<i>forces the price up to PW</i>
	236		<i>we'll call it parallel importing</i>

excerpt from Text B

In explaining the model of parallel importing, the lecturer concludes *we'll call it parallel importing* after a sequence of complex information involving at least two predictions and two consequences in relation to the model. It may be wondered if the students could have known that this accumulation of information would constitute the essential mechanisms of parallel importing,

Predictive reasoning in the tutorial data will be examined more fully in Chapters 7 and 8.

Summary

In this chapter the theoretical means for analysing the spoken data have been described. It was shown that the resources of systemic functional linguistics offer ways to analyse the functions of language, ie, to interpret experience, to construct social roles and identities, and to do these things simultaneously in a coherent manner. It was also shown how experiential or metaphoric shifts occur in scientific discourse. The drift towards 'things' and metaphorisation is in general a shift towards the experiential, so that phenomena which began possibly as something else can become nominalised and presented as abstract participants. Further, it was shown how nominalisations and

abstract participants are able to be presented as ‘objective’ knowledge that can be systematically organised and made explicit.

The chapter also introduced some of the challenges of economics for lecturers and students, one being that the discourse is construed as an *a priori* theory; meaning proceeds from a metaphorical base, rather than from any tangible origins with congruent participants. Preliminary observations of the spoken data offered insights into the kinds of challenges which faced the interactants throughout the tutorial discussion as they attempted to negotiate the theory and model dialogically.

The spoken data and these challenges will be investigated in the chapters following.

Analysis of spoken data

Chapter 5

Seeking explanations and confirmations: the role of the students' questions

Introduction

The preceding chapters have presented several perspectives of dialogic learning informed by social constructivist and Vygotskian notions of semiotic mediation. The curriculum of the Business Communication Program (BCP) as well as the nature of neoclassical economic written discourse have been described. The difficulties experienced by second language students with the discourse of economics as reported in the literature to date, albeit limited, have been also briefly outlined. In Chapter 4, the analytical framework using systemic functional linguistics theory of language has been described. To date, few studies have examined the educational experiences of students from this perspective, and apparently none to date examining the dialogic mediation of educational economic principles and theories, models, and illustrations.

It can be surmised that the characterisation of dialogic learning in a university context implies quite different things from primary and second language educational contexts in which the relevant research drawing on Vygotsky's ideas has taken place (Christie, 1998; Gibbons, 1999). If this claim is correct, the questions may then be asked: in what ways are the Vygotskian ideas of semiotic mediation realised in this university context? Are Bernstein's notions of pedagogic discourse able to offer further insights into the mediation between the lecturer and students and between students as peers; how were the students in this study regulated and instructed in their assignment task? These questions describe the issues to be addressed in the examination of the tutorial data in the following chapters. From the findings, implications for the application of more social-constructivist learning and teaching methodologies in Australian university education will be discussed.

The linguistic analysis in the following chapters will present an initial synoptic view of experiential meaning followed by more dynamic perspectives of the semiotic mediation construed throughout the tutorial discussion. The synoptic perspective will be presented in this Chapter. The analysis will open with an account of a significant feature identified, being the extensive use of questions posed by the students. The analysis will use an adaptation of Hasan (1983; 1989) and Hasan and Cloran's (1990) network of semantic choices for asking questions to determine the role played by the students' queries. An examination of the experiential meaning of the questions and responses will then be undertaken using ergativity and transitivity. Questions of interest in this examination will include possible shifts in meaning which may have occurred in the lecturer's explanations as a result of the students' questions.

The more dynamic aspects of semiotic mediation will then be examined in Chapters 7 and 8. Taking Bernstein's concept of pedagogic discourse as a beginning point, the data will be analysed at the semantic level for the rhetorical activities construed throughout the tutorial discussion. The purpose of this examination of the data is, firstly, to determine linguistically the kinds of contingency strategies undertaken by the lecturer and the impact these strategies had on the students' appropriation of theoretical meanings; and secondly, to examine how prediction and consequence, being the *raison d'être* of written economic discourse, were reconstrued dialogically in the discussion. Thus, the linguistic analysis will attempt to fulfil the principle aim of this research, ie, to evaluate the effectiveness, or otherwise, of dialogic learning and semiotic mediation in this new educational context.

In preparation for the analysis of the rhetorical activities, Chapter 6 will define and explain the function of Rhetorical Unit (RU) analysis, after Hasan (1989) and Cloran (1994, 1995, 1999a, 1999b). In Chapter 7, using RU analysis, the investigation begins with an examination of the students' self-regulation of their assignment task. In particular, the analysis of the student data focuses on the relation between Bernstein's notion of the regulative discourse and the instructional discourse. The analysis will use Cloran's (2006 draft:2) characterisation of the structure potential for the instructional discourse. The discussion will define and exemplify the various functional elements and sub-elements of the instructional discourse identified in the tutorial data. The semantic

realisation of each element and sub-element is made possible by the linguistic resources offered by Rhetorical Unit analysis. From this analysis, it is possible to determine the contingency and appropriation strategies undertaken throughout the tutorial discussion.

Chapter 8 will extend the examination of what happens when predictive reasoning in relation to the economic model is explained dialogically. This examination is again made possible by the use of Rhetorical Unit analysis and Cloran's (2006 draft:2) characterisation of the structure potential for instructional discourse. The elements of predictive reasoning identified in the instructional discourse will be discussed, being the recurring rhetorical activities of predictions, conjectures, consequences and causation. The analysis will take account of the logico-semantic relations of reasoning at the level of clause as well as the textual components and Rhetorical Units at the semantic level of message. The use of Rhetorical Units and the structure potential, within Bernstein's theory, is intended to provide evidence of the kinds of mediation that took place between the lecturer and students. From the analysis it is possible to further discern any semantic adjustments made by the lecturer in response to the students' questions. As noted in Chapter 5, the students' questions were a major catalyst for any guidance.

Finally in Chapter 9, the aim and implications of the study will be reflected on in relation to the outcomes of the research.

Section 1 Message semantics

The analysis of the questions and responses is made possible by the use of Hasan's (1983, 1989, 1991, 1992a, 1992b) message network to analyse each message lexicographically and semantically for rhetorical activities. The advantage of adopting this approach lies in the possibility of realising experiential meaning in the stratum below, ie, at the more 'delicate' level via wording at the lexicogrammatical stratum. Hence, the analysis will examine the questions and responses for experiential meaning at the lexicogrammatical level and rhetorical activities at the semantic level.

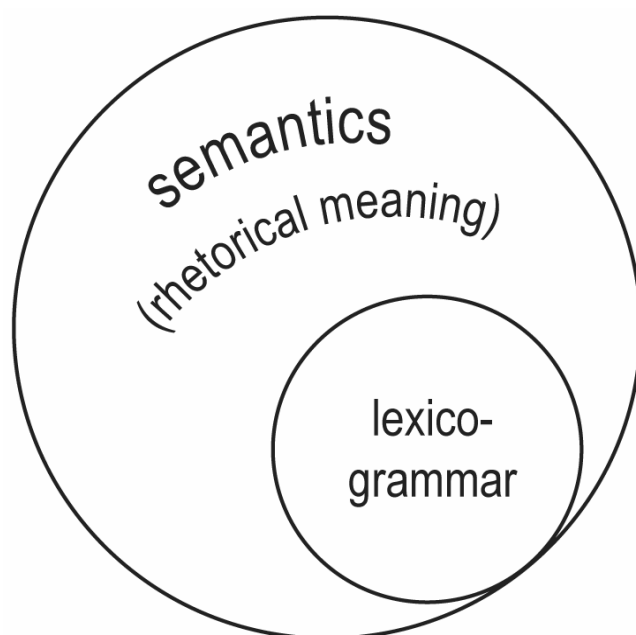


Figure 5.1 Tutorial interactions analysed at two levels: the semantic system realised in the lexicogrammar

A message is proposed by Hasan (1991:81) as the basic constituent unit of text which is capable of realising an element of the generic structure of a text. A message is typically realised by a clause which has at least two characteristics: i. it must be ranking, ie, non-embedded, and ii. it must be non-projecting (Cloran, 1995:362). If the clause is projecting or projected, eg, *I mean we don't have to think about demand* it is considered to construe just one single message. The projecting clause *I mean* is considered incapable of realising an element of the generic structure of the text (Cloran, 1994:150).

A distinction is made by Hasan between messages which are [progressive] and those which are [punctuative]. A [progressive] message is expressed and constituted by a clause and so has access to the full range of lexicogrammatical choices in transitivity, Theme etc. A [punctuative] message on the other hand is typically minor clauses or formulaic expressions and therefore non-productive in furthering the discussion (Hasan, 1992b:91; Cloran, 1994:153-4). The primary distinction is summarised by Cloran (1994:151); a progressive message is one which “moves the text forward” and a [punctuative] message is one which is non-productive “serving simply to punctuate the discourse by highly formulaic lexicogrammatical means”.

In the spoken data presented here, [punctuative] messages include formulaic minor clauses, particularly minimal feedback, such as *OK, yeah*; also incomplete messages due to interruptions, eg, *hey do we need to == er* ; and, single words or phrases which are offered as contributions to others' explanations, for example,

turn	mess	interactant	
16	21	Tiff	<i>what's parallel importing?</i>
17	22	See	<i>ah</i>
18	23	Li	<i>it is ah the government</i>
	24		<i>and</i>
19	25	Cin	<i>restrict</i>
20	26	Li	<i>not allow the</i>
21	27	Tiff	<i>no no no produce brought from overseas</i>

excerpt from Text 2

Cin's contributions, for example, message 25, *restrict* constitutes a [punctuative] message. In contrast to Hasan (1992b) and Cloran's (1994) explanation of [punctuative] messages, it could be argued, in this case, Cin's contribution does indeed move the discussion forward as it helps construct the meaning of the response to Tiff's question, message 21, *what's parallel importing?*

An examination of the kinds of messages [progressive] and [punctuative] construed in the tutorial data

A comparison of the number and percentages of messages [progressive] and [punctuative] exchanged by the lecturer and the students in the tutorial discussion is shown below in Table 5.1,

Texts	interactants	messages	%	progressive messages	%	punctuative messages	%
A - F	economics lecturer	187	29%	161	25%	26	4%
	students – economics lecturer	92	14.5%	30	4.7%	62	9.8%
1 - 6	student-only discussion	360	57%	207	32%	153	24%
	Total	632	100%	398	62%	234	38%

Table 5.1 Comparison of messages exchanged by lecturer and students by number and percentage

The results reveal that the lecturer's messages constitute 29% of the overall discussion. The students' messages with the lecturer in Texts A – F constitute 14.5% of the discussion. And, in the student-only discussion in Texts 1 – 6 messages constitute 57% of the discussion. The most significant contrast in the results, is the high percentage of [punctuative] messages in the students' interactions, both with the lecturer 9.8% in Texts A – F and in their student-only discussions 24% in Texts 1- 6. This contrasts with the lecturer's [punctuative] messages being only 4% in Texts A - F.

A more detailed comparison between the number and percentage of messages [progressive] and [punctuative] in the lecturer and student interactions in Texts A – F is shown in Table 5.2,

Text	Economics lecturer				Students – Economics lecturer			
	progress message	%	punctuat message	%	progress message	%	punctuat message	%
A	15	2%	3	0.4%	2	0.3%	3	0.4%
B	36	5%	1	0.1%	1	0.1%	5	0.7%
C	34	5%	4	0.6%	3	0.4%	9	1%
D	18	2%	2	0.3%	2	0.3%	6	0.9%
E	10	1.5%	7	1%	5	0.7%	3	0.4%
F	48	7.5%	11	1.7%	17	2.6%	36	5.6%
Total	161	25%	26	4%	30	4.7%	62	9.8%

Table 5.2 Comparison of messages [progressive] and [punctuative] exchanged by lecturer and students in Texts A – F by number and percentage

The results in Table 5.2 show the students' [punctuative] messages constitute a greater percentage 9.8% than their [progressive] messages 4.7% in all their interactions with the lecturer, except for a slightly higher percentage of [progressive] messages 0.7% than [punctuative] messages 0.4% in Text E. In contrast, the lecturer's interactions are overwhelmingly constituted by [progressive] messages in all texts. The results suggest the monologic nature of the lecturer's interactions and the extent to which the students were rendered as passive listeners until Text F. In their interactions with the lecturer, a large percentage of the students' [punctuative] messages were construed as minimal feedback, as exemplified in the excerpt below from Text B,

turn	mess	interactant	
142	208	Eco lecturer	<i>first of all you might start here at equilibrium</i>
	209		<i>and say add on foreign trade</i>
	210		<i>push the price to whatever the world price is</i>
143	211	Li	<i>yes yes</i>
144	212	students [collectively]	<i>ahha</i>
145	213	Eco lecturer	<i>then if you bring parallel importing into it</i>
	214		<i>it pushes the price back up</i>
146	215	students [collectively]	<i>hmm</i>
147	216	Eco lecturer	<i>toward equilibrium you see</i>
148	217	students [collectively]	<i>ooh</i>

excerpt from Text B

In the student – lecturer interactions in Texts A - E, the students' [progressive] messages 2% are constituted overwhelmingly by their questions. The slightly higher percentage of [progressive] messages in the students' interactions 2.6% in Text F indicates an increase in interactions with the lecturer. Correspondingly, the higher percentage in the lecturer's interactions in Text F of [punctuative] messages indicates the lecturer's responses to the students' interactions, for example, message 518, *OK* in the excerpt below,

turn	mess	interactant	
299	514	Eco lecturer	<i>there's there's the equilibrium price of thirty</i>
	515		<i>this is say I don't know um twenty = dollars</i>
300	516	Li	<i>= twenty yes</i>
301	517	Tiff	<i>= twenty</i>
302	518	Eco lecturer	<i>OK</i>

excerpt from Text F

Results from the student-only interactions (Texts 1 – 6) are shown below in Table 5.3. These results show [progressive] and [punctuative] messages by the students by each text,

Text	Student - student					
	Total messages	%	progressive messages	%	punctuative messages	%
1	8	1%	4	0.6%	4	0.6%
2	48	7.5%	32	5%	16	2.5%
3	29	4.5%	14	2%	15	2%
4	76	12%	43	6.8%	33	5%
5	112	17%	63	10%	49	7.7%
6	87	13%	51	8%	36	5.6%
Total	360	57%	207	32%	153	24%

Table 5.3 Messages [progressive] and [punctuative] exchanged by students by Text

In these Texts, the percentage of [punctuative] messages declined somewhat in relation to [progressive] messages as the discussion progressed. Rather than almost equal numbers of [progressive] and [punctuative] messages, as in Texts 1, 3 and 4, [progressive] messages began to outnumber [punctuative] messages 63:49 in Text 5 and 51:36 in Text 6. These results suggest that the students, having heard the lecturer's explanations, had an increased understanding of their assignment task. Text 5 follows the lecturer's first interaction with the students, and Text 6 follows her interaction with the group for the second time.

Each student's participation in the student-only discussion in Texts 1 – 6 is shown below in Table 5.4 by [progressive] and [punctuative] messages,

Texts	Student	Total messages	%	progress. messages	%	punctuat. messages	%
1 - 6	Li	86	13.6%	53	8%	33	5%
	See	93	14.7%	53	8%	40	6%
	Cin	68	10.7%	34	5.3%	34	5%
	Tiff	109	17%	63	10%	46	7%
	Ken	4	0.6%	3	0.4%	1	0.15%
	Total	360	56%	206	32%	154	24%

Table 5.4 Messages [progressive] and [punctuative] exchanged by each student (Texts 1-6)

The results show the differences in each student's contribution to the discussion. Tiff's contribution 17%, for example, far outweighs Ken's contribution 0.6%. The contributions of See 14.7%, Li 13.6% and Cin 10.7% are somewhat similar. Yet, the overall impression of the data is that Li and See are the main interactants in the discussion. This is due to the fact that it is Li and See who interact most with the lecturer and ask questions of the lecturer. However, in these student-only discussions, it is Tiff who poses the most probing questions in relation to the economic model, eg, (gloss) *why does the government restrict CDs from overseas?* Although Ken's contribution is minimal, she also poses key questions which seek to inquire about the effects of parallel importing in Texts 5 and 6, eg, (gloss) *how does the government protect the CD market?*

While all students' interactions show high percentages of [punctuative] messages, Cin's interactions appear to be beset by the greatest degree of difficulty. This is suggested by the similar percentages of [punctuative] messages 5% and [progressive] messages 5.3% throughout her interactions. However, while Cin's capabilities in English were not the same as the other students, the high percentage of [punctuative] messages is due in part to the kinds of assistance she offers her colleagues. In fact, the degree of cooperation in the student-only discussions (Texts 1 – 6) accounts for many, but not all, of the [punctuative] messages, with the exception of Ken. These kinds of [punctuative]

messages are evident in the excerpt from Text 6 below. Here, Tiff's [punctuative] message 671 *to twenty seven* offers a calculation for the price of CDs as a result of parallel importing. Another contribution in Cin's [punctuative] message 678 *produce more* appears both a confirmation and correction of Li's tentative claim in message 677 *the supplier will [intro]produce more*,

turn	mess	interactant	
386	669	Li	<i>this is this is not produced by anyone</i>
	670		<i>so the the the price will push up</i>
387	671	Tiff	<i>to twenty seven</i>
388	672	Li	<i>to twenty seven no?</i>
389	673	Tiff	<i>shor-tage</i>
390	674	Li	<i>ah cause because this the the</i>
391	675	Cin	<i>the buyer</i>
392	676	Li	<i>yeh because the supply because the eh price is higher</i>
	677		<i>the supplier will (intro)produce more</i>
393	678	Cin	<i>produce more</i>

excerpt from Text 6

A more detailed examination of the tutorial data will begin with the students' questions in order to realise their role in the discussions.

Section 2 Analysis of the students' questions

The analysis of the questions will use the analytic categories for asking questions developed by Hasan (1983, 1989) and Hasan and Cloran (1990), as well as an examination of the ergativity and transitivity patterns of experiential meaning in the interactions. The students' questions will provide the overall framework for the analyses of the data, and will aim to provide a particular view of semiotic mediation and dialogic learning. This linguistic analysis will investigate particular features of the questions, that is: i. if the students ask many more questions than the lecturer; ii. if any contrasts occur between the kinds of questions posed to the lecturer compared with questions posed to each other; iii. if the students' questions offer any insights into their levels of understanding, and, importantly, their confusions; and iv. if the questions prompt the

lecturer to adjust her existing expectations about the students' learning and kinds of mediation provided.

Students' questions can select options to seek two kinds of information according to Hasan (1983, 1989) and Hasan and Cloran's (1990) analytic categories for asking questions: explanations and confirmations. The questions seeking explanations are of interest for several reasons. The first concerns the investigation of how dialogic learning might contribute to students' understanding of causal relations. The second acknowledges that predictive reasoning is the *raison d'être* of economic discourse (see Chapter 8 *Hypothetical predictive reasoning in written economic discourse*). The third recognises that fostering capabilities to reason and to infer cause-effect relations is the most desired student and graduate attribute, as articulated in Bloom's taxonomy (1956), Biggs and Collis's (1982) SOLO taxonomy, and in current Australian university manifestoes outlining graduate qualities. And finally, among the concerns expressed in the literature, regarding the participation of second language international students in Australian higher education, is the typecasting of the students' preferences for recitation and replication and their avoidance of disciplines which require 'language-rich' exposition. The latter category of questions, ie, those which seek confirmation, can reveal important insights into the students' state of knowledge and so provide a valuable gauge of, most particularly, their degree of confusion.

These insights will be shown in the following chapters as critical for any effective mentoring by the lecturer. The analysis of questions in the spoken data is set out in Appendix A.

Using the analytic categories for asking questions (Hasan, 1983, 1989; Hasan & Cloran, 1990)

Figure 5.2 shows the semantic network for asking questions adapted from Hasan (1983, 1989) and Hasan & Cloran (1990). The system network of MOOD at the lexico-grammar stratum is activated at the simultaneous selection of the options [**demanding;information**]. A speaker can select the option [**apprize**] to elicit some more specific information or the option [**confirm**] in order to elicit a yes/no response. In Text 4, message 89, Cin's question: *why isn't there direct importing on the CD?* selects

the semantic feature [**apprize**]. In Text 5, message 195, Li's question: *is it manufactured by the local producers is it?* has the semantic feature [**confirm**].

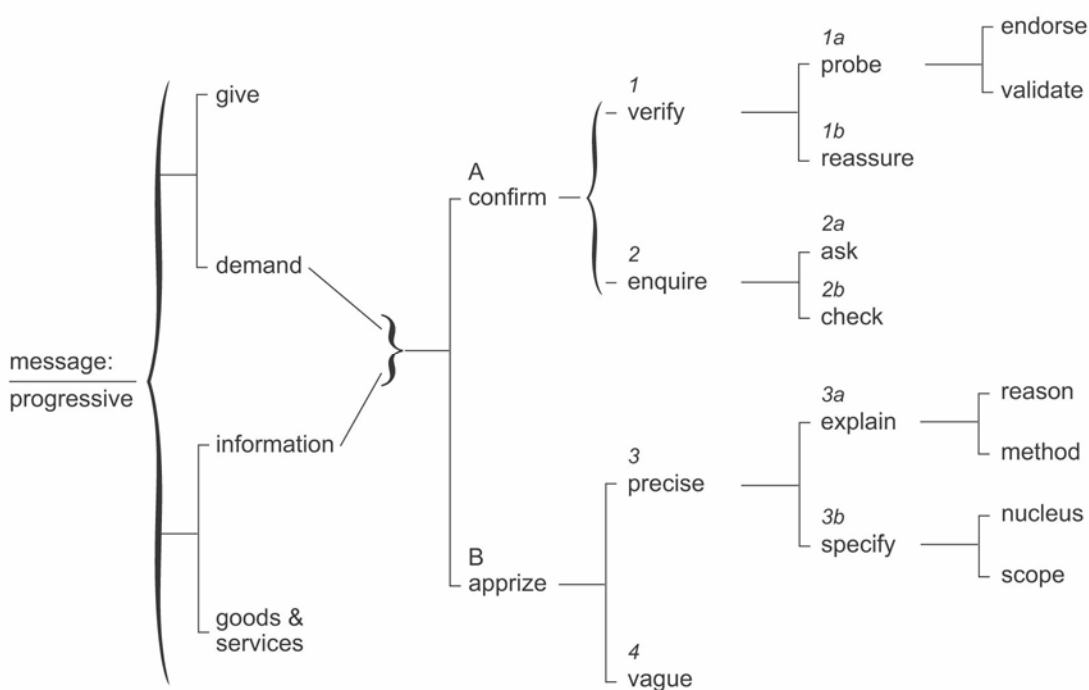


Figure 5.2 Simplified network for asking questions – showing semantic choices in this data adapted from Hasan (1983, 1989); Hasan & Cloran (1990)

The options for expressing questions

The options described are those which appear in the spoken data.

The option [**apprize**]

The option [**apprize**] is the entry condition for selection from the more delicate system of options [**precise**] and [**vague**].

The option [**precise**] is the condition for entry to more delicate choices between [**explain**] and [**specify**]. The option [**apprize:precise:specify:nucleus**] is expressed by a clause whose Theme may be a wh- participant or wh- circumstance, eg,

[demand;information:apprize:precise:specify:nucleus]

what's the effect of parallel importing on the price?

The option [**apprize:vague**] is realised by Mood and Predicator ellipsis (Halliday & Hasan, 1989) where Theme is 'how/what about?'. The meaning can be retrieved from the co-text, eg,

[demand;information:apprize:vague]

how about this shortage?

This could be expanded from the co-text as,

What does this shortage of CDs mean in relation to parallel importing?

The lexicogrammatical realisations for the option [**apprize**], both systemically and structurally, are shown in Table 5.5,

	<i>semantic option</i>	Lexicogrammatical realisation
	(interrogative:	non-polar;wh-conflated with Theme)
4	vague	ellipsis of Finite and Predicator; AND Theme MUST BE initiated as <i>what/how about</i> with nominal group following
3	precise	interrogative:non-polar
3b	specify	wh-elements MUST NOT conflate with Circ:Reason OR Circ:Method:Principle
3a	explain	Theme is <i>why/what for/how...</i>
	scope	wh- is Adjunct; conflates with any Circ EXCEPT Reason or Principle
	nucleus	wh- is Subj or Comp <i>who/what.../which</i>
	reason	wh- = <i>why/for what reason/what for</i>
	method	wh- = <i>how/by what method/on what principle</i>

Table 5.5 Lexicogrammatical realisations for the [apprize] option

The students' questions posed to each other choosing the [**apprize**] option at the outset of the discussion are critical in their attempts to define, explain and illustrate the economic model. The questions seek explanations [**apprize:precise:explain**], reasons

[**explain:reason**] and methods [**explain:method**], eg, *why does the government apply parallel importing?; why does the government restrict imports from overseas?; and how does the government protect the local industry?* The instantiations for the [**apprize**] option in the data are shown in Table 5.6 following,

	semantic option	example
4	vague	<i>Tiff what else?</i>
3	precise	<i>which one are you doing?</i>
3b	specify	<i>what do you mean by why?</i>
3a	explain	<i>why does the government apply parallel importing?</i>
	scope	n/a
	nucleus	<i>what's parallel importing?</i>
	reason	<i>why does the government restrict imports from overseas?</i>
	method	<i>how does the government protect the local industry?</i>

Table 5.6 Some semantic realisations for the [apprize] option in the data

The option [**confirm**]

The option [**confirm**] is the entry condition for selection from the more delicate system of options [**verify**] and [**enquire**]. The option [**confirm:verify**] must have the MOOD features declarative : tagged. Lexicogrammatically this option is realised by the elements Subject^Finite .. Finite^Subject, eg,

[**demand;information:confirm:verify**]

tax is tariff, is it?.

The option [**verify**] provides for a choice between [**probe**] and [**reassure**]. The first option [**verify:probe**] occurs when a speaker wants to determine the veracity of a proposition and must have the MOOD features declarative : tagged : marked. The

feature marked is realised by the tag polarity matching the polarity in the main part of the clause, eg,

[demand;information:confirm:verify:probe]

it isn't manufactured by the local producers isn't it?

Two additional categories, [**probe:endorse**] and [**probe:validate**], have been identified in this data. The option [**probe:endorse**] is realised by a declarative:question tag with constant polarity, eg,

[demand;information:confirm:verify:probe:endorse]

it's produced by the local manufacturers is it?

The option [**probe:validate**] is realised by the Adjunct *...right?*. These questions occur frequently in the student data, and in one instance in the lecturer's utterances, eg,

[demand;information:confirm:verify:probe:validate]

Tiff: *the price is part of world price right?*

Economic lecturer: *when they say QF to QD is the amount of imports that come into the economy without any parallel importing that's just free trade right?*

The second option [**verify:reassure**] differs from [**verify:probe:validate**] in that the former is realised in the reversal of polarity. The unmarked tag would be realised by the tag polarity contrasting with the polarity in the main clause. This option must have the MOOD features declarative : tagged : unmarked, eg,

[demand;information:confirm:verify:reassure]

the question says three things, doesn't it?

The option [**confirm:enquire**] is expressed by the choice of indicative. Further specifications are realised with the choices between [**check**] and [**ask**]. The first option [**confirm:enquire:check**] has MOOD features declarative : untagged and a KEY feature which is expressed by Tone 2 (Halliday, 1967:56-57), eg,

[demand;information:confirm:enquire:check]

so the quantity affects price?

The second option [**enquire:ask**] is realised by a clause that is interrogative : polar where the Finite element precedes the Subject, eg,

[demand;information:confirm:enquire:ask]

isn't the price set by the government?

The lexicogrammatical realisations for the option [confirm], both systemically and structurally, are shown in Table 5.7,

	semantic option	lexicogrammatical	realisation
		systemic realisation	structural realisation
A	confirm	indicative	S _~ F
1	verify	declarative:tagged	S^F ... F^S
2	enquire		
1a	probe	declarative:tagged:constant	S^Fneg ... Fneg^S S^Fpos ... Fpos^S
1b	reassure	declarative:tagged:reversed	S^Fneg ... Fpos^S S^Fpos ... Fneg^S
	endorse	Q tagged:constant	S^Fneg ... Fneg^S S^Fpos ... Fpos^S
	validate	declarative:Adjunct right?	
2a	ask	interrogative:polar	F^S^Pred ...
2b	check	declarative:untagged/Tone2	S^F^Pred .../Tone2

Table 5.7 Lexicogrammatical realisations for the [confirm] option

The extensive use of the [**confirm**] option by the students meant they were able to seek confirmation that their interpretations and hunches were accurate. Instantiations for the [**confirm**] option in the data, shown in Table 5.8, include,

	semantic option	
1	verify	<i>that's the local produce right?</i>
2	enquire	<i>is it higher than the local price?</i>
1a	probe	<i>no produce is bought in from overseas right?</i>
1b	reassure	<i>the question says three things, doesn't it?</i>
	endorse	<i>is it produced by local manufacturers is it?</i>
	validate	<i>we want to import CDs into Australia right?</i>
2a	ask	<i>do we write dollar here?</i>
2b	check	<i>so higher than the real price?</i>

Table 5.8 Some semantic realisations for the [confirm] option in the data

Student questions

The total number of complete questions asked by the students in the tutorial session was 80. The students asked each other 68 questions. Of these, 27 selected the feature [apprize] and 41 [confirm] as shown below in Tables 5.9 and 5.10 respectively, and one incomplete yet answered question. The number of questions the students asked the lecturer was 12. Of these, 2 selected the feature [apprize] and 10 selected [confirm]. While seemingly few in number, the questions posed to the lecturer offer critical insights into the students' understanding of the topic, or otherwise, and, as a consequence, provided important opportunities for the lecturer to adjust her explanations accordingly.

In contrast, the lecturer asked only 7 questions. These data therefore offer a different insight into semiotic mediation and into classroom dynamics from those reported in the literature in which it is most usually the teacher who poses the majority of the questions. These results show that rather than the key concepts of economic theory interpreted for the students and didactically presented, this educational experience offered the students opportunities to heuristically explore complex meanings of the discourse,

students	[apprize]				sub-total	
	precise			vague		
	explain		specify			
	reason	method	scope	nucleus		
2				1	1	2
3	2			1		3
4	6	4		2	1	13
5				5	1	6
D	1					1
E					1	1
6	1					1
sub-total	10	4	n/a	9	4	27

Table 5.9 Students' questions: showing the categories of the [apprize] option with sub-totals

students	[confirm]					sub-total
	verify		enquire			
	probe		reassure	ask	check	
	endorse	validate				
2		1	1	1	1	4
3			1	1	1	3
4		3	1	1	1	6
A					3	3
B				1		1
C					1	1
5	1	4		6	2	13
F			2		2	4
6		3		2	1	6
sub-total	1	11	5	12	12	41
Total						68

Table 5.10 Students' questions: showing the categories of the [confirm] option with sub-totals and total

In summary, the analysis of the questions provides therefore a critical opportunity to examine what it is that is being probed and reflected on as well as any possible increments in the students' understanding, and, importantly, possible confusions. These will now be examined.

Section 3: A synopsis of experiential meaning

Experiential meaning construed by the students' questions

The experiential meaning construed by the students' questions will be described in the following discussion. To recapitulate briefly, the aim of the students' assignment was to illustrate their analysis of the effects of parallel importing on demand and supply in relation to the compact disc (CD) market as a result of a parallel importing ban. The particular task to be undertaken in the tutorial session was to calculate the changes in the price of CDs if parallel importing restrictions were removed. The students were to draw a demand and supply diagram "as evidence" showing the shifts in price. Preparatory reading for the session was media articles which suggested price changes could be \$7 less for the price of a CD. As discussed in Chapter 3, it appears the students had not read the articles before the tutorial.

Before considering the focus of the students' questions, the nature of the analysis will be explained.

Analysis of the students' questions, and spoken data, using transitivity and ergativity

The examination of how economic phenomena are construed linguistically in the students' questions, and then in the lecturer's responses, will involve examining the kinds of experiential participants and activities realised throughout the interactions. A transitive interpretation of the questions and responses enables the analysis to take account of the kinds of participants focussed on in each message and the kinds of verbal processes which extend between one participant and another to determine what the participant is or what it is doing. An ergativity perspective of the interactions complements transitivity by identifying the key participants around which the interactions revolve. From an ergative perspective, a happening is interpreted as involving a process and a Medium. The Medium is the key figure in the process; it is the one through which the process is actualised (Halliday, 2004:288). The participant causing the process is known as the Agent.

Of interest here is how the focus may have shifted throughout the tutorial discussion in terms of the order of meaning, ie, between participants construed metaphorically or more congruently.

Categories of experiential participants identified in the spoken data

Overall, six categories of experiential participants were identified in the spoken data: two categories of first order meaning and four categories of second order meaning. The two categories of first order meaning include reference to co-present interactants, ie, the lecturer and students as *I*, *you* and *we*. The other first order category draws on the Platonic notion of *Pistis* which refers to material objects (see Chapter 2 *Systemic functional linguistic perspective: language as the principal resource in the development of knowledge*). In these data, these objects include the assignment question, dollar amounts, eg, *twenty seven* and numbers of CDs, eg, *ten*.

The four categories of second order participants in the data are related either to the *economic theory*, the *economic model of parallel importing*, the *demand and supply diagram*, or *interactants as members of the speech fellowship*. The classification of participants into the four categories is determined by relations of hyponymy, eg, *local producers* and *other producers* are subsumed under *producers*; meronyms, eg, *the ban price* and *the parallel importing price* is subsumed under *price*; and synonymy, eg, *the cost of CDs* is subsumed under the *price of CDs*.

In summary, the two categories of first order participants identified are:

- i. co-present interactants: *I*, *me*, *you*, *we*
- ii. *Pistis* referring to material objects: *CDs*, *dollars*, *the question*

The categories of second order participants identified are:

- i. economic theory, eg: *equilibrium*, *supply*, *demand*, *market* etc
- ii. economic model, eg: *parallel importing*, *imports*, *government*, *buyers*, *sellers* etc
- iii. the demand and supply diagram, eg: *demand curve*, *supply curve*, *other generic elements* eg *line*, *exophoric reference* eg *here*, *there*, *this*

iv. interactants as members of the interactant's speech fellowship, ie, economic community: *you, we*

The question here then concerns the potential shifts in meaning throughout the tutorial discussion as predicted in the literature. Is the lecturer able to construe more metaphorical meaning in her explanations as the students' comprehension of their task develops?

The two categories of reference to interactants *we* and *you* identified in the data construing both first and second order references, ie, to co-present interactants and those interactants construed as members of the economic community, will be the subject of a discussion later in this chapter (see *Multiple roles of 'we' and 'you' in the spoken data*). The role of the demand and supply diagram will also be examined.

The focus of the students' questions

This discussion will take account of findings in relation to the focus of experiential meaning (the Medium) construed by the students' questions posed first to each other and then to the lecturer. A summary of this focus in the 12 texts (Texts A – F and Texts 1 – 6) is shown in Table 5.11 below. The six categories of participants described previously are coded by colour,

	Category of Medium	Medium as key participant in student questions											
		Text											
		1	2	3	4	A	B	C	5	D	E	F	6
first order meaning	Interactants: co-present												
	<i>we</i> (=interactant)			1	1				1				
	<i>you</i> (=interactant)				1				1				1
second order meaning	Interactants: economic community												
	<i>we</i> (=economic community)								1				
	<i>you</i> (=economic community)					1							
	Economic theory												
	<i>equilibrium</i>												
	<i>equilibrium price</i>												
	<i>a market</i>												
	<i>demand</i>												
	Economic model												
	<i>parallel importing</i>		3			1			1				
	<i>imports</i>				1								
	<i>shortage of CDs</i>						1		1		2		
	<i>producers</i>												
<i>price of CDs</i>							1	5		1	2	1	
<i>world price</i>								1					
<i>government</i>				4				1				1	
Demand and supply diagram													
<i>diagram</i>				1									
<i>element on diagram (eg line)</i>			1								1		
first order meaning	<i>Pistis</i> =actual objects												
	<i>number of CDs</i>								1				
	<i>dollars</i>												
	<i>question/assignment</i>		1		2								

Table 5.11 Key experiential participants (the Medium) in the students' questions according to categories of meaning

Overall, the focus (the Medium) of the students' questions to each other moved from *parallel importing* (Text 2) to elements of the model, viz, the *government* (Texts 4, 5 & 6) to the aim of their task, ie, illustrating the effects of parallel importing on the *price of CDs* (Texts 5 & 6). The questions to the lecturer indicate a focus on *parallel importing* (Text A) to *shortage of CDs* (Texts B and E) to *price of CDs* (Texts C, E and F).

Examining the focus of participants (the Medium) construed in the students' questions posed to each other

The focus (the Medium) of the students' questions will be examined according to the primary function of the questions:

A. students' questions choosing the [apprize] option posed to each other

- i. seeking to define and explain the economic model
- ii. repeated questions as students encountered difficulties in explaining the economic model

B. students' questions choosing the [confirm] option posed to each other

- i. 'peripatetic' probings as the students attempt to explain the economic model
- ii. incoherent nature of the questions revealing some of the students' confusions
- iii. shifts from second order to first order meanings: numbers of CDs and dollar amounts

A. students' questions choosing the [apprize] option posed to each other

i. seeking to define and explain the economic model

The questions the students posed to each other choosing the [apprize:precise], [apprize:reason] and [apprize:method] seek a logical series of enquiries to define and explain the model *what? how?, why? and what's the effect of...?*. The questions relate to the economic model – indicated by its colour code set out in Table 5.11 above. More specifically, the questions focus on the definition of parallel importing; its function; and its effects on the price of CDs, shown below in Table 5.12,

Text	turn	mess	Questions
2	16	21	<i>what is parallel importing?</i>
4	96	131	<i>how does it(=parallel importing) protect local industry?</i>
4	103	139	<i>why does the government use it(=parallel importing)?</i>
5	227	379	<i>what's the effect [of a price rise]?</i>
5	238	400	<i>what's the effect [of parallel importing]?</i>

Table 5.12 Questions choosing the [apprize] option seeking to define and explain parallel importing

The students were able to provide adequate responses for two of the [apprize] options, ie, to the request for a definition, message 21, *what is parallel importing?* and to the request to explain the effect of parallel importing, message 139, *why does the government use it(=parallel importing)?*

ii. repeated questions to each other as students encountered difficulties in explaining the economic model

The students experienced difficulties in constructing their explanations for the other questions concerning *how parallel importing protects local industry* and *the effects of parallel importing*. The higher construals of [apprize:precise:explain:method] in Text 4 (5 questions) *how do they protect?* and [apprize:precise:specify:nucleus] in Text 5 (5 questions) *what's the effect of parallel importing on the price of CDs?* are due to the repetitions and rephrasing of these questions, shown below in Table 5.13,

Text	turn	mes	Medium	Process	Agent	Range	Circumstance
2	16	21	<i>parallel importing</i>	<i>is</i>			<i>what</i>
2	47	60	<i>it(=definition for parallel importing)</i>	<i>is</i>			<i>how long</i>
3	52	65	<i>we</i>	<i>do need</i>		<i>the graph</i>	<i>why</i>
4	86	120	<i>you</i>	<i>do mean</i>		<i>by why</i>	
4	96	131	<i>they(=the govt)</i>	<i>do protect</i>			<i>how</i>
4	97	132	<i>they(=the govt)</i>	<i>do protect</i>			<i>how</i>
4	103	139	<i>imports</i>	<i>restrict</i>			<i>why from overseas</i>
4	109	149	<i>they(=the govt)</i>	<i>do protect</i>			<i>how</i>
4	110	150	<i>they(=the govt)</i>	<i>do protect</i>			<i>how</i>
4	129	175	<i>what else</i>	<i>is</i>			
5	195	330	<i>it[they=CDs]</i>	<i>is [are] produced</i>	<i>by the local [producers]</i>		
5	227	379	<i>the effect(=of a price rise)</i>	<i>is</i>			<i>what</i>
5	228	380	<i>the effect(=of a price rise)</i>	<i>is</i>			<i>what</i>
5	238	399	<i>the price</i>	<i>is</i>			<i>what now</i>
5	238	400	<i>the parallel importing effects</i>	<i>is</i>			<i>what on the price</i>
5	247	411	<i>the same rules</i>	<i>do still use</i>	<i>they(=govt)</i>		<i>why</i>
6	395	686	<i>they(=govt)</i>	<i>do want</i>			<i>why less</i>

Table 5.13 Ergativity analysis of the students' questions to each other choosing the [apprize] option

The question *how do they protect?* was repeated four times by 3 students over 3 turns, and the question *what's the effect of parallel importing on the price of CDs?* was rephrased by 3 students over 7 turns.

B. students' questions choosing the [confirm] option posed to each other

i. 'peripatetic' probings as the students attempt to explain the economic model

The students' questions to each other choosing the [confirm] option are shown in Table 5.14 below. Unlike the [apprize] option the focus of each question choosing the feature [confirm] interweaves between first and second order meaning indicated by the different colour codes,

Text	turn	mess	Medium	Process	Agent	Range	Circumst.
2	6	9	<i>all these questions</i>	<i>do</i>	<i>we</i>		
2	18-21	23-27	<i>it</i>	<i>is</i>		<i>the government restricting produce bought from overseas</i>	
3	66	87	<i>it(=line on diagram)</i>	<i>supposed to be</i>		<i>flat</i>	
4	73	104	<i>we</i>	<i>need to understand</i>		<i>that</i>	
4	79	112	<i>[it=diagram]</i>	<i>[is]</i>			<i>without this P</i>
4	132	178	<i>the question</i>	<i>says</i>		<i>three things</i>	
5	176	302	<i>the price</i>	<i>is</i>		<i>part of world price</i>	
5	180	309	<i>that(=world price)</i>	<i>affects</i>		<i>price</i>	
5	184	313	<i>we</i>	<i>want to import</i>			<i>[into] Australia</i>
5	212	357	<i>[it]</i>	<i>[will] be</i>		<i>higher than the real price</i>	
5	226	377	<i>the price</i>	<i>go[es] up</i>			
5	230	388	<i>[you]</i>	<i>confuse[d]</i>	<i>I</i>		
5	238	397	<i>we</i>	<i>need to relate</i>		<i>it(=parallel importing))</i>	<i>to [the] reality</i>
5	238	398	<i>the figures to show the shortage</i>	<i>does use</i>	<i>this</i>		
5	249	413	<i>the government intervention point (sic)</i>	<i>do need to touch on</i>	<i>you</i>		
6	386-388	670-672	<i>the price</i>	<i>will push up</i>			<i>to twenty seven</i>
6	411	711	<i>you</i>	<i>know</i>			<i>what</i>
6	413	713	<i>who</i>	<i>has</i>		<i>that</i>	

Table 5.14 Ergativity analysis of the students' questions to each other choosing the [confirm] option

The apparent interweavings between orders of meaning appear to be symptomatic of the students' overall confusions. The shifts move 'peripatetically' between the first order categories of co-present interactants, *we* and *you* and the *assignment question* and second order participants such as *elements of the diagram*, *the price*, *world price*, '*figures*' and *the government*. The students sought to confirm the price in relation to the model, message 302, *is the price part of world price?* and the effect of parallel importing on price, message 670-672, *the price will push up to twenty seven?*

ii. incoherent nature of the questions revealing some of the students' confusions

Having heard the lecturer's theoretical explanations (Text A-C), the students' questions in Texts 4 and 5 further reveal their confusion. In their efforts to understand the model, they asked each other to confirm their interpretations about the effects of parallel importing on the price of CDs however without success: *is the shortage of CDs then produced by the local producers?; so (will it be) higher than the real price?; the price is part of world price right?*

The incoherent nature of some of the students' questions is revealed most in the [confirm:ask] and [confirm:reassure] options. The [confirm:ask] option variously concerns the draughting of the diagram: *do we write dollar?;* the assignment question: *is (the question) whether this shortage helps to solve the problem ah?;* the task: *is it (do) we need to relate it to the reality?;* and *don't you need [doing it] to touch on the government [inter]intervention point?*

iii. shifts to first order experiential meaning: numbers of CDs and dollar amounts

In the last phase of the students' discussion (Text 6), the students' understanding of parallel importing increased as a result of the lecturer's more congruent descriptions provided during her second discussion with the group (Text F). The questions posed to each other choosing the [confirm:verify:reassure], [confirm:verify:probe] options also shifted in focus toward more congruent explanations. Their negotiations focused on first order numbers of CDs and dollar amounts, eg, *so there is still a shortage of ten ten right?; so the price will push up to twenty seven to twenty seven no?* It was during this phase that the students attempted to explain the model and its effect, albeit still with difficulty.

The experiential meaning construed in the students' questions posed to the lecturer

The focus of the students' questions will be examined again according to the primary function of the questions:

A. students' questions choosing the [apprize] option posed to the lecturer

- i. recasting questions to more theoretical construals
- ii. initiating critical shifts toward more congruent meanings

B. students' questions choosing the [confirm] option posed to the lecturer

- i. other recast questions to more theoretical construals
- ii. further indications of the students' confusions

A. students' questions choosing the [apprize] option posed to the lecturer

i. recasting questions to more theoretical construals

The students' inability to answer Ken's question in Text 4, message 131, *how do they(=the government) protect [the local industry]?* resulted in their request for the lecturer to assist them *we need [lecturer's name] for this*. Curiously, the question then posed to the lecturer by Li, message 434, *why is the world price lower than the equilibrium price?*, shown below in Table 5.15, appears to bear no relationship to Ken's question or to the students' discussion up to that point (turn 254). The students' previous questions and discussion had focussed on more congruent elements of the model: *parallel importing – imports – the government – CDs – the effects of the price rise – the price – the effects of parallel importing – the government*, shown previously in Table 5.14.

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
D	254	434	<i>the world price</i>	[is]		<i>lower</i>	<i>why than the equilibrium price</i>
E	269	464	<i>this shortage</i>				<i>how about</i>

Table 5.15 Ergativity analysis of students' recast questions to the lecturer choosing the [apprize] option

The recast question posed by Li indicates a different focus on economic principles and theory, ie, *world price* as related to the economic theoretical concept of *equilibrium*. Li's recast question is quite different from the recasts discussed by Mohan & Gulbahar (2003:427) in their study of scaffolded learning. In their findings, recasts refer to the kind of suggestions and repairs by the teacher in response to students' attempts to explain a concept.

Here, the seemingly tangential relationship between the questions posed to each other and the recast question to the lecturer can possibly be explained by the previous explanations given by the lecturer to this group. In two earlier instances the lecturer had explained that the beginning point for illustrating the model in the demand and supply diagram was at *equilibrium price*:

Text B: *first of all you might start here at **equilibrium***

Text C: *it assumes you start with your thirty dollar **equilibrium** here your steep demand curve and your flat supply curve add in a lower overseas price twenty dollars then show the effect of parallel importing pushing that price back up to **equilibrium***

It will be seen that similar recastings occur in the students' questions choosing the [confirm] option. The recastings themselves do not seem to be a desire by the students to seek more theoretical explanations, rather they suggest the need by the students, at least for the student Li, to indicate to the lecturer that her explanations had been understood, or at least to echo or mimic 'how economists speak'. This brings into question the possible influences of the lecturer's use of the speech fellowship references to *we* and *you*. Being drawn in as co-members of the fellowship of economists the students may have been obliged implicitly to match the lecturer's metaphoric construals. Not to construct meaning to the same metaphorical degree may have

revealed the students' poor control of the discourse and their inadequate understanding of the principles of economics.

ii. initiating critical shifts toward more congruent meanings

It is in Texts D, E and F, as the students began to interact more with the lecturer in Phase 4 of the tutorial session, that their questions became less self-conscious and revealed their confusions. The question choosing the [apprise:vague] option, posed by Li, in messages 464 and 466 *how about this shortage is it supplied by the local producer?*, shown in Table 5.15, initiates one of the critical shifts in the overall discussion.

This particular question importantly began the process of focussing on more mundane ways to explain the effects of parallel importing, both by the students and in the responses offered by the lecturer. A comparison of the participant choices shown in Table 5.15 above provides an illustration of the shift in focus from the Medium in Li's earlier questions construed as the abstraction *the world price* with the highly theoretical Circumstance *the equilibrium price* to a focus on the Medium of the next question *the shortage of CDs* and the human agent *local producers*.

Similarly, the participants construed in the lecturer's responses, shown in Table 5.16 below, move to more congruent participants. For example, the primary participants (the Medium) in her responses shift from the abstractions *local price* and *world price* in Text D to more congruent reference in the following Text E *that much(=amount of CDs)*. The Agent and Circumstance in subsequent responses show particular deconstruals from the theoretical elements of *demand and supply* and *the equilibrium* and *in other countries* to *local producers*,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
D	255	435		's	<i>that</i>	<i>world price</i>	
	255	436	<i>local price</i>	<i>is set</i>	<i>by the local demand and supply</i>		<i>here the equilibrium thirty dollars</i>
	255	437	<i>the world price</i>	<i>is set</i>	<i>by the demand and supply</i>		<i>in other countries</i>
E	274	469	<i>that much(=amount of CDs)</i>	<i>tend only to supply</i>	<i>local producers</i>		<i>there</i>
	274	472	<i>that much(=amount of CDs)</i>	<i>are only prepared to supply</i>	<i>the local producers</i>		<i>there</i>

Table 5.16 Lecturer's responses showing shifts to more congruent experiential participants

Indeed, it will be further seen later in this discussion (see *The shifts apparent in the lecturer's texts (A-F)*) that these questions prompted significant changes in the lecturer's explanations realised by shifts to different kinds of meaning.

B. students' questions choosing the [confirm] option posed to the lecturer

i. other recast questions to more theoretical construals

The questions in messages 184/186 and 266 choosing the [confirm:enquire:check] option, shown in Table 5.17, are the initial questions posed by the students to the lecturer as she attended the group for the first time,

Li: *you know parallel importing?*

Economics lecturer: *yes*

Li: *does it become a market?*

and

See: *er do you mean that ah um by having parallel importing ah it's possible to push it to the equilibrium price?*

Text	turn	mess	Medium	Process	Agent	Range	Circumst.
A	136	184	<i>you</i>	<i>know</i>		<i>parallel importing</i>	
A	138	186	<i>it(=parallel importing)</i>	<i>become</i>		<i>a market</i>	
B	152	226	<i>still a little shortage</i>	<i>is</i>			
C	160	266	<i>it(=price)</i>	<i>is possible to push</i>	<i>it</i>		<i>to the equilibrium point</i>
F	283	488	<i>the parallel importing price</i>	<i>is set</i>	<i>by the govt</i>		
F	283	489	<i>it(=importing price set by the govt)</i>	<i>is</i>			
F	293	503	<i>this one(=line on diagram)</i>	<i>is</i>		<i>the shortage</i>	

Table 5.17 Ergativity analysis of other students' recast questions to the lecturer choosing the [confirm] option

Again, as shown in Table 5.17, the focus of these questions on highly theoretical aspects, *a market* as Range in message 186 and *to the equilibrium point* as Circumstance in message 266, contrasts with the kinds of meanings the students had been attempting to fathom on their own. Until these questions, the focus of the students' questions to each other choosing the [apprize] option had construed various features of the model, shown in Table 5.18 below,

Text	turn	mess	Medium	Process	Agent	Range	Circumst.
2	16	21	<i>parallel importing</i>	<i>is</i>			<i>what</i>
2	47	60	<i>it(=definition for parallel importing)</i>	<i>is</i>			<i>how long?</i>
4	96	131	<i>they(=the govt)</i>	<i>do protect</i>			<i>how</i>
4	103	139	<i>imports</i>	<i>restrict</i>			<i>why from overseas</i>
4	109	149	<i>they(=the govt)</i>	<i>do protect</i>			<i>how</i>

Table 5.18 Ergativity analysis of other students' questions to each other choosing both the [apprize] and [confirm] options focusing on various features of the model

ii. further indications of the students' confusion

As the students' questions became less self-conscious their confirmation seeking questions to the lecturer revealed inaccuracies in their interpretations, indicated by the question [confirm:verify:check] *and the ban price and the ban price I mean the parallel importing price is set by the government or is it?* The question indicates that the student had not fully comprehended the essential meaning of equilibrium theory, supply and demand and market forces, ie, the theoretical concepts underpinning the economics curriculum of the subject, the economic model of parallel importing and, therefore, their assignment task. Questions seeking this feature offered critical insights for the lecturer into the students' limited understanding. These insights enabled important opportunities for the lecturer to adjust her explanations accordingly. These contingency strategies employed by the lecturer are discussed further in Chapters 7 and 8.

The results from the examination of the questions indicate that:

- they ask many more questions choosing the [confirm] option than the [apprize] option (68:27);
- questions choosing the [confirm] option indicate the degree of the students' confusion;
- the questions choosing the [apprize] option seek a logical series of enquiries from a definition of parallel importing to how the model operates and its effects;
- the students ask each other quite different questions compared to those posed to the lecturer;
- the students appear to re-cast their questions to the lecturer using more technical and abstract language;
- a shift in focus occurs in the later phases of the discussion.

In summary, the focus of the questions posed to the lecturer indicate that the students did not have adequate background knowledge of the economic principles and theory necessary to explain and illustrate the model of parallel importing. Importantly, it is apparent it was the questions which were the catalyst for the lecturer to alter the way she explained the model.

Lecturer questions

In contrast to many studies on classroom talk, the lecturer in this case study asked only 7 questions. Of these, 3 selected the feature [apprize] and 4 selected the feature [confirm]. The questions selecting the [apprize] option, shown in Table 5.19, were associated with the assignment question, eg, *which one are you doing?* and one rhetorical question *what does a shortage do?* The questions selecting the [confirm] option [confirm:verify:probe:validate], shown in Table 5.20, also include the rhetorical questions *when they say QF to QD is the amount of imports that come into the economy without parallel importing that's just free trade right?* and the somewhat formulaic 'teacher question' [confirm:enquire:ask:ellipsis] *understand?*

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
A	135	182	<i>which one</i>	<i>are doing</i>	<i>you</i>		
B	153	234	<i>a shortage</i>	<i>does do</i>			<i>what</i>
F	337	596	<i>you</i>	<i>are</i>		<i>which one</i>	

Table 5.19 Ergativity analysis of lecturer's questions choosing the [apprize] option

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
B	153	230	<i>that(=QF to QD imports without parallel importing)</i>	<i>is</i>		<i>just free trade</i>	

Table 5.20 Ergativity analysis of lecturer's question choosing the [confirm] option

Identifying the shifts in experiential meaning throughout the tutorial discussion

The examination of the data now moves from the focus of the students' questions to the focus of the overall tutorial discussion. The following discussion again identifies the key experiential participants (the Medium) construed in the lecturer's explanations and in the students' interactions. To reiterate, it is the shifts in meaning as the tutorial discussion unfolded which are of particular interest. A summary of these shifts in the lecturer's explanations across six Texts (A-F) using Ergativity is displayed in Table 5.21,

Lecturer's explanations	Category of Medium	1 st discussion with students			2 nd discussion with students			
		Text A	B	C	D	E	F	
first order meaning	Interactants:co-present							
	<i>I/me</i> <i>you</i>		1				1 1	
second order meaning	Interactants: economic community							
	<i>we</i> <i>you</i>	5 2	3 4	4 1	2		7 3	
	Economic theory							
	<i>demand and supply</i> <i>equilibrium price</i> <i>market</i> <i>quantity traded</i> <i>quantity supplied</i>	1		1 1	1 2		1	
	Economic model							
	<i>parallel importing</i> <i>effects of parallel</i> <i>importing imports</i> <i>imports</i> <i>supply of CDs</i> <i>demand for CDs</i> <i>shortage of CDs</i> <i>producers</i> <i>price of CDs</i> <i>world price</i> <i>trade</i> <i>tax</i> <i>sellers</i> <i>buyers</i> <i>companies/firms</i>	1 1 1 2	1 6 5 3 1	2 2 1 2 6 1 2 1 1		3 2 2	2 1 1 12 1 1	
	Demand and supply diagram							
	<i>diagram</i> <i>demand and supply</i> <i>curves</i> <i>QS to QD</i> <i>QF to QD</i> <i>QS</i> <i>element on diagram</i> <i>(eg line)</i>	1 1 1	2 1	2 1		1	2	
	first order meaning	<i>Pistis=actual objects</i> <i>number of CDs</i> <i>dollars</i> <i>question/</i> <i>assignment</i>	1	2	1			10 3 2

Table 5.21 Key experiential participants (the Medium) in the lecturer's discussion (Texts A-F) according to categories of meaning

Given the practical nature of the tutorial task, ie, to draw a demand and supply diagram, the focus of the lecturer's discussion might have been expected to be less theoretical and

more congruent from the outset. However, considering the students were in the third and final year of their degree program a major aim of the curriculum had been for students to effectively explain the model and illustrate the effects of the model multimodally, in this case, by a demand and supply diagram. The difficulties faced by the students in undertaking the task reveal the challenges of attempting to reconstrue the historically ‘ossified’ written discourse of academic economics dialogically. Importantly, the data raise concerns about the assumptions made in university education concerning students’ prior understanding of theoretical principles, particularly newly-arrived second language students who are undertaking economics within a business degree.

A. The shifts apparent in the lecturer’s texts (A-F)

The lecturer’s explanations took place during two phases of the tutorial discussion. A shift in focus is apparent between the explanations given in the first phase (Texts A-C) and her explanation in the second phase (Texts E-F) as shown in Table 5.21 above.

The particular shifts apparent in the lecturer’s responses are:

- i. from metaphorical explanations to congruent descriptions of the economic model;
- ii. reference to different kinds of interactants.

i. shifts from metaphorical explanations to congruent descriptions of the economic model

The data reveal a shift in focus in the lecturer’s responses to the students’ questions away from more metaphorical elements of the economic model and the demand and supply diagram, such as *parallel importing*, *effects of parallel importing*, *imports*, *shortage of CDs*, *tax* and *trade*. By the final phase of the lecturer’s discussion with the students (Text F) the focus had narrowed to just three participants, as shown in Table 5.21 previously, the *price of CDs*; reference to *we* as members of the economic community; and *number of CDs*.

Shifts in relation to the demand and supply diagram and elements of the diagram as Medium are also evident. The specific elements of the diagram construed in the initial phase of the lecturer's responses included the *demand and supply curves*, *QS* to *QD*, *QF* to *QD* and *QS*. These are in contrast to the latter part of her discussion in which non-technical elements of the diagram are mentioned, eg, *line*,

Considering the major shift in the focus of the students' questions moved from the model of *parallel importing* to the more congruent calculations related to the *price of CDs* (see Table 5.21), it is not surprising that the lecturer's explanations responded increasingly to the focus of their enquiries. The most significant shift was in response to Li's somewhat confused question at the beginning of Text F *and the ban I mean the parallel importing price is set by the government?* Indeed, the different construals of *price* offer a gauge of the shifts in the lecturer's responses. The ergativity analysis, shown in Table 5.22 below, provides indications as to how these shifts occurred,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
B	145	214	<i>the price</i>	<i>pushes</i>	<i>it(=parallel importing)</i>		<i>back up</i>
B	151	224	<i>it(=price)</i>	<i>would bring</i>	<i>It(=banned imports)</i>		<i>back up here to equilibrium</i>
B	153	235	<i>the price</i>	<i>forces</i>	<i>[a shortage]</i>		<i>up to PW</i>
C	159	263	<i>price</i>	<i>goes up</i>			
D	255	436	<i>local price</i>	<i>is set</i>	<i>by the local demand and supply</i>		<i>here the equilibrium thirty dollars</i>
E	255	436	<i>local price</i>	<i>is set</i>	<i>by the local demand and supply</i>		<i>here the equilibrium thirty dollars</i>
E	282	487	<i>the price</i>	<i>forces</i>	<i>the ban</i>		<i>up</i>
F	286	493	<i>it(=the price)</i>	<i>'s not set</i>	<i>by anybody</i>		
F	288	495	<i>it(=the price)</i>	<i>'s set</i>	<i>by the shortage (=of CDs)</i>		
F	311	544	<i>the price</i>	<i>starts to push</i>	<i>that(=the shortage)</i>		<i>up</i>
F	311	545	<i>the price</i>	<i>goes up</i>			
F	326	573	<i>the price</i>	<i>will stop going</i>			<i>up</i>
F	326	575	<i>it(=the price)</i>	<i>won't go</i>			<i>up to thirty</i>

Table 5.22 Ergativity analysis of different construals of *price of CDs* in lecturer's texts (B-F)

Initially, the lecturer construes *price* in both active and passive forms as being *pushed* or *forced* or *set* by more metaphorical abstract Agents including *parallel importing*, *local demand and supply* and *the ban* with theoretical Circumstances *equilibrium points*, *PW* and *prices*. By the final phase of her responses, shown in Text F from message 545, following Li's question, the lecturers' explanations shifted to descriptions of the *price* in more congruent processes such as *going up* or *not going up* to actual dollar amounts. It is noteworthy that the lecturer takes care not to provide the calculated price of the CDs; it remains the task for the students.

ii. shifts in relation to second order reference to *we* and *you*

In classroom talk, the construal of *you*, as observed by Christie (1998), signals the directing of students' behaviour. *You* is often replaced by *we*, according to Quirk et al.,

when *you* is considered to be too authoritative. A point of interest in this data is another kind of shift in the lecturer's responses, ie, in relation to the second order category of speech community interactants. Thus, findings in this data equate in some instances with Quirk's distinction; others not. The shift involves a move from the interchangeable reference to *we* and *you* as Medium in the initial stages of the lecturer's interactions (Text A) to increasing construals involving the referent *you* as Agent as the lecturer's explanations become more congruent (Text F).

At the outset of the lecturer's interactions with the students, reference to the second order speech fellowship category alternates between *we* and *you* and high levels of obligation, regardless of the role played, ie, as either the Medium or Agent in the process. These shifts are evident when comparing Table 5.23 showing Text A and Table 5.24 showing Text F below,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
A	139	187	<i>we</i>	<i>still got to go</i>			<i>off from here</i>
		188	<i>we</i>	<i>still have got to assume</i>		<i>perfectly competitive market structures</i>	
		194	<i>an outcover policy</i>	<i>have to include</i>	<i>we</i>		
		195	<i>we</i>	<i>'ve got to extend</i>		<i>it(=line on graph)</i>	
		196	<i>a world price</i>	<i>'ve got to put in</i>	<i>you</i>		<i>here</i>

Table 5.23 Interchangeable reference to *we* and *you* as Medium and Agent in Text A

The shift to *you* in Text F (turns 319-325) signals a contingency strategy by the lecturer to explain the economic model more congruently. As the lecturer abandons her theoretical explanations, she also abandons reference to *we* and any degree of obligation, shown in Table 5.24,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
F	335	589	<i>that(=the seven dollar cut)</i>	<i>take</i>	<i>you</i>		<i>away</i>
	335	591	<i>you</i>	<i>'ll go</i>			<i>back down to there</i>
	335	592	<i>the reverse of that</i>	<i>do</i>	<i>[you]</i>		
	337	596	<i>you</i>	<i>are</i>		<i>which one?</i>	
	341	601	<i>this where it gets pushed up to twenty seven</i>	<i>do</i>	<i>you</i>		
	345	606	<i>it</i>	<i>reverse</i>	<i>[you]</i>		

Table 5.24 Shift to *you* as Medium and Agent without any degree of obligation in Text F

Multiple roles of *we* and *you* in the spoken data

The difficulties second language students experience with the written discourse of academic economics, reported in the literature, include the frequent shifts between personification, ie, reference to interactants *I*, *you* and *we*, metaphorical concepts, and reference to other semiotic systems such as mathematics and visual diagrams (Mason, 1990; Hewings, 1990:30). Here, it is the extensive reference to interactants *we* and *you* in the tutorial discussion that is of interest. In particular, it is the multiple roles played by these referents in the lecturer's interactions and the potential ambiguities which may arise from the plurality of meanings, which, as Halliday (1994:189) explains, cannot be specified simply in terms of presence or absence. The potential ambiguities for second language students are acknowledged also in Hasan's (2001:57) observation,

The more removed from personal experience a category is, perhaps the more problematic it is from the point of view of understanding its full meaning, and this naturally means lack of sure-footedness in building it into one's own discourse.

In the spoken data, possible ambiguities appear in the subtle shifts, particularly in the lecturer's responses between reference to first order co-present interactants *we* and *you*,

involved in the material activities associated with the assignment task, and reference to second order *we* and *you* as members of the “institutionalised“ economic speech community.

The two categories of *we* and *you* in the spoken data have been identified from five possible categories of interactants, described by Hasan (2001:57). Hasan’s categories are:

- i. interactants here and now;
- ii. a group known to the speaker such as family;
- iii. a group that extends to include friends and/or neighbours;
- iv. members of the interactant’s speech fellowship, following Firth (1957); and,
- v. the entire human race.

As discussed, the two categories of *we* and *you* identified in the data are:

- i. interactants here-and-now;
- and
- iv. members of the interactant’s speech fellowship, ie, the economic community.

We and *you* are defined by the speaker’s point of view, as Halliday & Hasan (1976:48) explain, and do not normally refer to the text. *We* and *you* may be interpreted exophorically by reference to the situation or to the institutional framework in the case of the ‘mixed’ *we* which can extend to a group with which the speaker wishes to align her/himself (ibid:p.53). The exophoric and extralinguistic nature of interactants cannot be considered to contribute to the textual cohesion of the text (Hasan, 1985a:84-85), a feature which will be examined in the ensuing discussion in Chapter 6 in relation to rhetorical activities and the analysis of Rhetorical Units.

The two categories of interactants *we* and *you* identified in the data

i. *we* and *you* construed as first order interactants here-and-now

Reference to *we* and *you* construed in the discussion as first order co-present interactants here-and-now equates with reference to *we* and *you* discussed in educational

literature and with Bernstein's (1990) notion of regulative discourse. In educational literature, reference to *we* by the teacher is considered to build solidarity "in the common enterprise of working together" (Christie, 1998:161) and so serves to signal collegiality and to lower the status barriers (Bourne, 2003:502). These findings concur with Quirk et al's., (1972:208) third category of *we* - after the 'royal' and 'editorial' *we*- which seeks to identify the speaker and hearer (writer/reader) as involved in a joint enterprise. This is universally interpreted in classroom discourse as the co-present interactants involved in material activity.

ii. *we* and *you* construed as second order members of the speech community

The construal of *we* and *you* as second order members of the interactant's speech fellowship, following Firth (1957), in this case the economic community, equates with the frequent use of *we* in contemporary written economic discourse. The analysis of this category here offers insights into its spoken equivalent. While this second order category has received scant attention in the literature, it is this category which appears to present difficulties for many second language students (see Hewings, 1990; Mason, 1990).

The particular history of economic discourse provides some understanding of the predilection for the use of *we*. Perhaps somewhat ironically in relation to the findings in the spoken data here, Adam Smith advocated in his *Lectures on Rhetoric*, delivered in 1748-49, a reliance on familiar categories and "intersubjective realities" (Bazerman, 1993:176). These strategies, he envisioned, had dual roles: to avoid ambiguity and to appeal to those in political power. The continued use of *we* in written economic discourse has been attributed to paradigmatic unity (Moore, 2002:358) established in the discourse over time. The degree of agreement within the discipline, reflected in the self-referential *we*, is typical of 'mature disciplines' such as economics, which, according to Bernstein (1999:164), can be regarded as a 'vertical discourse' having "strong grammars" and "an explicit conceptual syntax". In contrast, 'newer' disciplines, such as sociology, are construed by an array of languages which rely on canonical names, eg, Marx, rather than on one theoretical paradigm. In the construal of the paradigm of economics, an important participant therefore is the second order speech fellowship *we*.

For further discussion of the use of personal pronouns in academic texts, albeit written texts, see Harwood (2005); Hyland (2002); Kuo (1999); Tang and John (1999).

B. Different kinds of shifts in meaning in the students' discussion (Texts 1-6)

- i. distinct shifts in experiential meaning of the students' discussion, and
- ii. contrasts between the students' and lecturer's construal of a second order element of the economic model *price of CDs*

The focus of the students' discussion (the Medium) also reveals distinct changes in relation to the first part of the discussion (Texts 1-3) and further shifts in the second part (Texts 4-6). As indicated by their construal of questions, choosing the [confirm] feature, the students' interactions can be characterised as 'peripatetic' and not at all unilinear. At the level of text, the shifts in students' focus are shown in Figure 5.3 below,

Text 1	↓	<i>the demand and supply diagram</i>
Text 2		<i>definition of parallel importing</i>
Text 3		<i>attempts to draw the diagram</i>
Text 4		<i>aspects of parallel importing</i>
Text 5		<i>the price of CDs</i>
Text 6		<i>buyers and price of CDs</i>

Figure 5.3 Shifts in focus in each text of students' discussion

i. shifts in the focus of the students' discussion

A glance at the focus of the students' discussions (the Medium), displayed in Table 5.25 below, reveals that a distinct shift took place in the focus of the students' enquiries from an initial concern about the nature of parallel importing to its effect on the calculation of the price of CDs, ie, from attempts to understand the model to the core focus of their assignment task,

students' discussion	Category of Medium	pre-lecturer				after lect's 1 st explan	after lect's 2 nd explan
		Text 1	2	3	4	5	6
first order meaning	Interactants: co-present interactant						
	<i>I/me</i>	1	1	1	3	5	2
	<i>you</i>		4	2		1	5
second order meaning	Interactants: economic community						
	<i>we</i>				1	2	
	<i>you</i>						3
	Economic theory						
	<i>demand and supply</i>					1	
	<i>perfect competition</i>					1	
	<i>elastic demand</i>						1
	<i>zero demand</i>						1
	Economic model						
	<i>parallel importing</i>		11	1	1	1	
	<i>effects of parallel importing imports</i>					1	
	<i>imports</i>				3	1	1
	<i>supply of CDs</i>				1	2	4
	<i>demand for CDs</i>				1		2
	<i>shortage of CDs</i>				2	5	3
	<i>importers</i>				1	1	
	<i>producers</i>				4	1	
	<i>price of CDs</i>			1		22	7
	<i>world price</i>					2	
	<i>effects of price increases</i>					2	
	<i>trade</i>			1			
	<i>tax</i>		4				
	<i>government</i>		3			6	
<i>companies/firms</i>						1	
<i>ban</i>		1					
<i>sellers</i>					2		
<i>buyers</i>						6	
Demand and supply diagram							
<i>diagram</i>	2		1			1	
<i>QS to QD</i>							
<i>element on diagram (eg line)</i>			3		1		
first order meaning	<i>Pistis=actual objects</i>						
	<i>number of CDs</i>						4
	<i>dollars</i>			1			
	<i>question/assignment</i>				2	1	

Table 5.25 Key experiential participants (the Medium) in the students' discussion (Texts 1-6) according to categories of meaning

The shifts in focus on experiential meaning are apparent between the students' initial focus on the demand and supply diagram in Texts 1 and 3 and on *parallel importing* as a *tax* in Text 2 to considerations of other aspects of the model, including *imports*, *supply of CDs* and first order objects *number of CDs* and the *assignment* in Texts 4 - 6. Shifts from human participants construed metaphorically as the *government* to the more congruent *producers*, *sellers* and *buyers* also occurs in Texts 4 - 6. However, it is the extensive focus on *price of CDs* in Texts 5 and 6 which dominates the later part of the students' discussion. It appears it was not until the students' seemingly confused questions directed the lecturer to more mundane descriptions of the model in her second session, Phase 4, that the students were then able to understand how to undertake their assignment task and the calculation of the new price of CDs.

ii. contrasts between the students' and lecturer's construal of second order element of the economic model *price of CDs*

The ergativity analysis, shown in Table 5.26 below, provides insights into how differently and congruently the students construe instances of the key participant in the tutorial discussion *price of CDs* compared with the more metaphorical construals by the lecturer (compare Table 5.22),

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
3	53	68	<i>the price of CDs</i>	<i>is</i>		<i>twenty dollars</i>	
5	175	299	<i>the price</i>	<i>causes to go up</i>	<i>that(=ban imports)</i>		
5	176	302	<i>the price</i>	<i>is</i>		<i>part of world price</i>	
5	179	307	<i>it(=the price)</i>	<i>is</i>		<i>twenty</i>	
5	179	308	<i>it(=the price)</i>	<i>is</i>		<i>twenty</i>	
5	186	316	<i>the price</i>	<i>doubles</i>			
5	187	317	<i>it(=the price)</i>	<i>'s</i>		<i>a fixed one</i>	
5	193	323	<i>a very cheap price</i>	<i>will be</i>	<i>it</i>		
5	210	353	<i>parallel price the price</i>	<i>[will] go up</i>			
5	212	356	<i>this parallel importing the price</i>	<i>will (be) go up</i>			
5	212	357	<i>[it]</i>	<i>[will] be</i>		<i>higher than the real price</i>	
5	219	364	<i>the parallel importing [price]</i>	<i>[is]</i>		<i>almost the same</i>	<i>after we fix the parallel importing</i>
5	222	370	<i>the price</i>	<i>forces to go up</i>	<i>it(=parallel importing)</i>		<i>because of this shortage of demand</i>
5	222	371	<i>the price</i>	<i>is</i>		<i>higher</i>	
5	224	373	<i>the price</i>	<i>increases</i>			
5	226	376	<i>the cost</i>	<i>'s</i>			<i>what</i>
5	226	377	<i>the price</i>	<i>go up</i>			
5	227	378	<i>the price</i>	<i>increase[s]</i>			
5	228	381	<i>the price</i>	<i>is forced to be increased</i>			
5	228	383	<i>the price</i>	<i>is forced to be increased</i>			
5 <i>gloss</i>	228	384	<i>the price</i>	<i>reduce</i>	<i>the local producers</i>		<i>to a lower price</i>
6	364	636	<i>the price</i>	<i>[is]</i>		<i>high</i>	
6	370	644	<i>the price</i>	<i>[is]</i>		<i>low</i>	
6	372	647	<i>the price</i>	<i>[is]</i>		<i>twenty seven</i>	<i>now</i>
6	374	650	<i>the price</i>	<i>is</i>		<i>twenty seven</i>	
6	392	676	<i>the price</i>	<i>is</i>		<i>higher</i>	
6	394	679	<i>the price</i>	<i>is</i>		<i>higher</i>	
6	396	687	<i>the price</i>	<i>is</i>		<i>higher</i>	
6	396	687	<i>the price</i>	<i>is</i>		<i>higher</i>	

Table 5.26 Ergativity analysis of students' focus on *price of CDs* (Texts 3-6)

The focus on the *price of CDs* is overwhelmingly congruent as the students attempt to calculate the price after the imposition of parallel importing. Their struggles to calculate the price are apparent. The difficulties are indicated by their repetitions in Text 5. In only one instance in Text 5, message 370, is there an attempt to draw on more theoretical explanations of the effect on price *it(=parallel importing) forces the price to go up because of this shortage of demand*. However, resorting to more theoretical explanations does not solve the students' dilemma with the task.

Further contrasts in the experiential meaning construed in the lecturer and student interactions

Contrasts in meaning construed by the lecturer and students are apparent in a further three categories: co-present interactants; interactants construed as the economic community; and the demand and supply diagram. The students' reference to themselves as co-present interactants is not surprising as their negotiations of the task were highly collaborative: *I lost my diagram; we are not presenting now; I['m] confuse[d]; do we need to understand that?; do we write dollar?* On the other hand, the students' construal of interactants as members of the economic community, unlike the lecturer's explanations, is not a significant feature of the students' discussion. Although in Texts 5 and 6 they begin to refer to this second order category of *we* in their questions choosing the [confirm] option, eg, *we want to import into Australia right?* and in a fairly marked reference to *you*, eg, *you use [the] demand and supply to manage the market*. However, neither the question nor the statement were responded to by other group members.

Another feature of contrast is the construal by the students of the demand and supply diagram as a generic category rather than considering specific elements of the diagram. Given that the diagram was a major focus of the assignment task its role as a primary participant in the students' interactions was minimal. As noted previously, the students' focus remained throughout the second part of their discussion on attempts to calculate the price of CDs after the imposition of parallel importing and did not reach the point of successfully drawing the diagram. Indeed, the students abandoned their attempts to draw the diagram in favour of attempting to understand the impact of parallel importing.

The role of the diagram in the overall tutorial discussion will now be considered.

Section 4 The role of demand and supply diagram in the tutorial discussion

As has been discussed, the written discourse of economics construes concepts metaphorically without necessarily drawing from natural or actual social equivalences. From Bernstein (1990:164) and others' perspective, economics is a discourse whose empirical phenomena are rigorously restricted. The role of the demand and supply diagram in the tutorial assignment was to provide "evidence" for the model of parallel importing and its effects on market price. In this sense, the diagram appears to be construed as empirical evidence in support of the theory and model. Its role is suggestive of a quasi equivalent of observational and experimental activities in natural sciences. Thus, it could be argued that the diagram, based on the importance placed on its function in explaining the economic model, assumes the role of 'natural phenomena' – the kind identified by Kuhn (1970:46),

... intellectual tools are from the start encountered in a historically and pedagogically prior unit that displays them with and through their applications. A new theory is always announced together with applications to some concrete range of natural phenomena; without them it would not be even a candidate for acceptance.

However, apart from the one instance in which QF to QD (Text B message 229) is construed as Medium by the lecturer to define its meaning, the role of the demand and supply diagram as a participant, ie, either as Medium or Agent, is minimal throughout the tutorial discussion. While the diagram may have been the central focus of the assignment task, yet, linguistically it appears to remain located in the material context rather than as a key participant in the text. Its role appears quite different from the 'intersemiosis' identified by O'Halloran (2005:218) in mathematics discourse whereby the grammars of symbolic, visual and linguistic parts of the text interlock so that selections are almost interchangeable. The findings also contrast with those of Royce (1999) who observes that repetition and synonymy of participants and processes in media texts on economic issues are realised in an 'intersemiotic complementarity', whereby the visual and verbal modes can 'work together' on the page.

It may be argued that the students' impoverished understanding of the economic model resulted in a greater focus on the remediation of their understanding of the theory and model rather than the diagram, however the findings here concur with those of Wignell (1997) and Royce (1999). Both have found that any 'intersemiotic' relationship between the verbal and visual modes in written educational economic discourse lacks any rigorous treatment, being instead an assumed part of the discourse, and indeed the curriculum. Their findings are supported by Hey (2005:293) who argues that diagrams or graphs can illustrate the propositions articulated in economic theory with greater insights than currently realised,

In any intermediate microeconomics textbook, one thing is immediately obvious: it is full of graphs. However, it seems that the graphs are not used to their full potential. They are usually there to illustrate the general principles of a result being discussed in the text; instead, they could be used to convince the students of the truth of the propositions of the text.

To understand economics, Hey (2005:304) continues, students need accurately drawn diagrams or graphs so they "can see and feel the economics". One of the more intriguing aspects of this research has been the perceptions offered in conversation with academic economists concerning the role of the diagrams or graphs in the discourse. These perceptions have varied from "it's all in the graphs" and "they provide evidence for what's happening to demand and supply" to "they are only there to illustrate the model". These differences raise questions as to their actual role in economics education.

In the BCP, on the one hand, the model answers written by the economics lecturer, which the students received each week, exemplified how key elements of the graphs/diagrams (referred to as *figure*) could be integrated into their discussion, for example,

If the Australian government were to impose parallel importing on CDs this would mean that imports of CDs from certain overseas countries into Australia would not be allowed. This policy is similar to a quota system, which restricts the amount of imports into Australia. Figure 1 illustrates the policy. The impact of parallel importing is a rise in price (p_w to $p_w(q)$ in figure 1), more Australians would produce CDs (q_s to q_{s1} in figure 1) and thus more local employment, a fall in CDs purchased in Australia (q_d to q_{d1} in figure 1) and a fall in imports (m to m_1 in figure 1).

However, in the tutorial discussion, the diagram remained an illustration located outside the text and was not construed as a key Participant either as Medium or Agent, Token or Value, or Actor or Goal. Overwhelmingly, the diagram is referred to exophorically: *that, this, those* and as Circumstance *here*. In the following discussion, the role of the demand and supply diagram in the lecturer and students' data will be examined more fully.

Indeed, the limited 'intersemiosis' of the demand and supply diagram in the tutorial discussion is evident considering only 5 instances occur in which the diagram and elements of the diagram are construed as key participants, ie, as Medium, in the lecturer's interactions. These instances are shown in Table 5.27 below,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
A	139	189	<i>demand and supply curves</i>	<i>'re still using</i>	<i>we</i>		
B	153	229	<i>QF to QD</i>	<i>is</i>		<i>the amount of imports [that come into the economy without parallel importing]</i>	
C	163	269	<i>imports QS to QD</i>	<i>would get</i>	<i>we</i>		
F	169	294	<i>a really big diagram</i>	<i>need to</i>	<i>you</i>		<i>like that</i>
F	299	514	<i>equilibrium price of thirty</i>	<i>'s</i>			

Table 5.27 Elements of the diagram construed as Medium in lecturer's interactions

The diagram occurs as Medium in 7 instances in the students' negotiations. In 2 instances the diagram or elements of the diagram are construed as a question choosing the [apprize] feature, shown in Table 5.28 below,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
3	66	87	<i>it(=line on diagram)</i>	<i>'s supposed to be</i>		<i>flat</i>	
	67	89	<i>it(=line on diagram)</i>	<i>is</i>		<i>flat</i>	<i>why</i>

Table 5.28 The diagram construed as Medium in students' interactions

The students negotiate the drawing of the diagram in 5 instances in which the diagram is construed as Medium and students as Agent, shown in Table 5.29,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
1	1	1	<i>the diagram</i>	<i>can draw</i>	<i>someone</i>		
	3	3	<i>my diagram</i>	<i>lost</i>	<i>I</i>		
4	78	111	<i>the parallel importing line</i>	<i>put</i>	<i>[you]</i>		
5	197	334	<i>a line</i>	<i>indicate [[by drawing]]</i>	<i>[you]</i>		
6	357	622	<i>the graph</i>	<i>borrow[lend]</i>	<i>me</i>		

Table 5.29 The diagram construed as Medium and students as Agent in students' interactions

The diagram is construed as Agent in only 1 instance in the lecturer's interactions, shown in Table 5.30,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
D	260-262	441-443		<i>is</i>	<i>the supply curve</i>		<i>further out to the right</i>

Table 5.30 An element of the diagram construed as Agent in lecturer's interactions

The diagram is construed as Range when the lecturer explains aspects of the diagram in 5 instances, shown in Table 5.31,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
A	135	195	<i>we</i>	<i>'ve got to extend</i>		<i>it(=line on graph)</i>	
B	153	238	<i>it</i>	<i>'s</i>		<i>the same diagram</i>	<i>as a tariff in lots of senses</i>
B	153	248	<i>it</i>	<i>'s</i>		<i>the same sort of diagram as a tariff diagram</i>	
C	171	297	<i>it(=parallel importing)</i>	<i>'s almost</i>		<i>the same as the tariff diagram</i>	
E	274	473	<i>that</i>	<i>'s</i>		<i>the QS</i>	

Table 5.31 The diagram and elements construed as Range in lecturer's interactions

The role of the diagram in the lecturer's mediation is overwhelmingly 'elsewhere', ie, in the material context as an illustration and not as a key participant in her explanations. As Halliday & Hasan (1976:37) explain, exophoric reference "retrieves" information outside the context of situation. In most instances in the lecturer's explanations, the diagram is referred to exophorically as *this, that, those*, shown in Table 5.32,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
A	139	193	<i>this(=line on graph)</i>	<i>extend</i>	<i>we</i>		
B	151	223	<i>all of those imports</i>	<i>banned</i>	<i>It(=parallel importing)</i>		
E	274	469	<i>that much(=amount of CDs)</i>	<i>tend only to supply</i>	<i>local producers</i>		<i>there</i>
E	266	455	<i>this</i>	<i>is</i>		<i>the demand and supply in Australia</i>	
E	274	473	<i>that</i>	<i>'s</i>		<i>the QS</i>	
E	274	474	<i>this</i>	<i>is</i>		<i>how much [[people want to demand]]</i>	
F	294	504	<i>that</i>	<i>'ll be</i>		<i>imports</i>	
F	299	515	<i>this</i>	<i>is</i>		<i>twenty dollars</i>	
F	302	520	<i>that</i>	<i>would be</i>		<i>the demand</i>	
F	302	521	<i>that</i>	<i>would be</i>		<i>the supply</i>	
F	305	525	<i>this many</i>	<i>'re not allowed to import</i>	<i>you</i>		

Table 5.32 Exophoric reference to the diagram by the lecturer

Conversely, the students only refer to the graph exophorically in 3 instances when interpreting its various symbolic meanings, shown in Table 5.33,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
3	68	91	<i>this one(=line)</i>	<i>'s</i>		<i>flat</i>	
4	118	161	<i>that</i>	<i>'s</i>		<i>the local produce</i>	
5	228	382	<i>this</i>	<i>is</i>		<i>the world prices</i>	

Table 5.33 Exophoric reference to the diagram by the students

Overwhelmingly, the diagram is construed as Circumstance when the lecturer directs the students' drawing of the diagram, shown in Table 5.34,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
A	139	187	<i>we</i>	<i>still got to go</i>			<i>off from here</i>
A		190	<i>[you]</i>	<i>start off</i>			<i>at thirty dollars with your demand curve</i>
A		196	<i>a world price</i>	<i>'ve got to put in</i>	<i>you</i>		<i>here</i>
B	142	208	<i>you</i>	<i>might start</i>			<i>here at equilibrium</i>
C	153	252	<i>you</i>	<i>start</i>			<i>with your thirty dollar equilibrium here your steep demand curve and your flat supply curve</i>

Table 5.34 The diagram construed as Circumstance in the lecturer's directives

The table below shows elements of the graph construed as Circumstance in the lecturer's explanations of parallel importing, shown in Table 5.35,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
B	151	224	<i>it(=price)</i>	<i>would bring</i>	<i>It(=banned imports)</i>		<i>back up here to equilibrium</i>
B	153	235	<i>the price</i>	<i>forces</i>	<i>[a shortage]</i>		<i>up to PW</i>
D	255	436	<i>local price</i>	<i>is set</i>	<i>by the local demand and supply</i>		<i>here the equilibrium thirty dollars</i>
E	274	469	<i>that much(=amount of CDs)</i>	<i>tend only to supply</i>	<i>local producers</i>		<i>there</i>
E	260-262	441-443		<i>is</i>	<i>the supply curve</i>		<i>further out to the right</i>
F	307	532		<i>is</i>		<i>a shortage</i>	<i>here of five and a shortage here of five</i>
F	313	552	<i>you</i>	<i>get</i>			<i>here to twenty seven dollars</i>

Table 5.35 The diagram construed as Circumstance in the lecturer's explanations

The students construed elements of the diagram as Circumstance in only 5 instances, shown in Table 5.36,

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
3	62	78	<i>parallel importing</i>	<i>is</i>			<i>here</i>
4	79	112	<i>[it]</i>	<i>[is]</i>			<i>without this P</i>
4	124	169	<i>a shortage</i>	's			<i>in our graph there</i>
5	193	326	<i>a shortage</i>	<i>is</i>			<i>here</i>
6	394	683	<i>the price</i>	<i>push[es] up</i>	<i>[lower demand]</i>		<i>higher to here</i>

Table 5.36 Elements of the diagram construed as Circumstance by the students

In summary, it is apparent that the demand and supply diagram plays only a minimal key participant role, either as Medium and Agent, in both the lecturer's and students' interactions, and indeed, a minimal role overall in the students' negotiations. The role of the demand and supply diagram in the tutorial discussion, in fact, appears to be 'elsewhere', ie, in the material context of situation and not as an 'intersemiotic' primary or secondary participant in the construal of the meaning of the economic theory or the economic model. The graph is linked particularly to the lecturer's text by exophoric reference. The diagram was not discussed at all in the final phases of the tutorial discussion.

Summary

The analysis offers unique insights into the experiences of second language students' participation in Australian university education and provides a different view of semiotic mediation from those studies presented in the literature on dialogic learning and classroom talk. This case study suggests that while the students' learning was a highly collaborative dialectical process, any transformations in understanding were not at all neatly incremental. Indeed, the process of mediation was largely *devolutionary*. Rather than moving toward new dimensions of abstract and metaphorical language to explain and exemplify economic phenomena, the interactions indicate that significant deconstruals toward more congruent representations of economic theory were required

before the students could progress in their learning and acquire any capacity to undertake the assignment task. It has been seen that the students' questions played an important prognostic role in this process.

The students' questions, therefore, appear to play an important role in achieving a kind of *praxis* in Freire's (1972:28) sense. That is, the students somewhat unwittingly reflect and act "upon the world in order to transform it". In other words, their questions changed the focus and direction of the lecturer's explanations. The opportunities for students to ask questions, reveal confusions, and to then revisit the task in an iterative process with increasingly congruent deconstructions, rather than the reverse process, illustrates the possibilities for learning offered by the particular methodology.

The social constructivist curriculum of the BCP aimed to provide students with opportunities to seek critical information and to negotiate their understanding of their assignment task. The analyses of the spoken data provide insights into semiotic mediation and dialogic learning in a university classroom – ones which indicate a need for the students to reveal their lack of understanding and for the lecturer to be able to apparently refine her responses to more realistic levels of guidance. Importantly, the students' difficulties offer academic colleagues in economics empirical evidence that the service curricula they continue to teach may require significant revisions if the subject is to be relevant to the needs of new student cohorts.

Chapter 6

Using Rhetorical Unit analysis

The previous chapter examined the students' questions and the lecturer's responses for experiential meaning using ergativity. In order to extend the in-depth examination of the cohort's educational experiences with economics, the analysis now moves to the level of semantics and an analysis of the rhetorical activities construed throughout the lecturer's and students' interactions, using Cloran's (1994; 1995; 1999a; 1999b, 2006 draft) Rhetorical Unit (RU) analysis. To make this analysis clear, Rhetorical Units will be defined and explained in this chapter.

The investigation undertaken in Chapters 7 and 8, using Rhetorical Unit (RU) analysis, is intended to examine Vygotskian notions of semiotic mediation in relation to the kind of mentoring by the lecturer, as well as peer mentoring and collaboration by the students.

Using Rhetorical Unit analysis

Rhetorical activities, as Cloran (1995:372) points out, are an abstraction at the semantic stratum and, as such, are realised by lexicogrammatical phenomena. RU analysis primarily involves the identification of relations between the basic constituent of the text, ie, the message, and how these relations construct the units of rhetorical meaning in the text. Using Hasan's (1983, 1989, 1991, 1992a, 1992b) message network enables an analysis of each message lexicogrammatically and semantically for rhetorical activities. To recapitulate, a message is proposed by Hasan (1991:81) as the basic constituent unit of text which is capable of realising an element of the generic structure of a text. A message is typically realised by a clause which has at least two characteristics: i. it must be ranking, ie, non-embedded, and ii. it must be non-projecting (Cloran, 1995:362).

The following discussion will take account of the nature of RU analysis; steps involved in the analysis of RUs; the definition of RUs; ‘collaborative RUs’ as a feature of the student interactions; and the relationship between RUs including embedded relationship and expanded relationship. As Cloran (1999:37) explains, the RUs which make up a text do not occur in isolation in the text; they are related to each other in various ways.

Steps involved in the analysis of Rhetorical Units

The texts which constitute both the lecturer’s responses (Texts A-F) and the students’ discussion (Texts 1-6) were segmented into messages following the work of Hasan (1983, 1989, 1991, 1992a, 1992b) and Cloran (1994; 1995; 1999a; 1999b, 2006 draft) as described previously in Chapter 5 (see *Section 1 Message semantics*).

It was then necessary to determine the nature of the central entity (CE) and temporal orientation of the event (EO) in each message as defined by Cloran (1995:372). The CE is lexicogrammatically realised by Subject and typically occurs within the message’s point of departure, ie, within the unmarked Theme, for example:

	<i>parallel importing</i>	<i>causes</i>	<i>a shortage of CDs</i>
Lexicogrammar	Subject	Finite	Complement
Semantic	Central Entity	Event Orientation [habitual:concurrent]	
Lexicogrammar	Unmarked topical Theme	Rheme	

In messages realised by Theme predicated clauses, eg, *it’s the supply*, the CE is realised not by the entity actualising the Subject role but by the entity actualising the role of Complement *the supply*. Similarly, the CE is realised by the entity actualising the Complement role in the type of clauses introduced by the non-referential *there*, eg, *there will still be a shortage*.

A challenge in the analysis of the students' interactions was the accurate retrieval of CEs presupposed by ellipsis. The interpretation of many such instances involved the insertion of existential 'there' as Subject. This interpretation yields a CE that is, in fact, actualised rather than presupposed as in messages 37 and 38 in the excerpt below from Text 2,

turn mess interactant

27	35	Li	<i>not not tax (=it is not a tax)</i>
28	36	Cin	<i>not tax (=it is not a tax)</i>
29	37	Li	<i>(there is) no tax involved</i>
30	38	Ken	<i>(there is) no tax involved</i>
31	39	See	<i>no tax (is) involved?</i>

extract from Text 2

In instances of the students' highly collaborative interactions, the message could be construed over several turns. In the following activity where the students are defining parallel importing, the retrieval of the CE *the government* is made apparent by the predicated Theme *it*,

turn mess interactant

16	21	Tiff	<i>what's parallel importing?</i>
17	22	See	<i>ah</i>
18	23	Li	<i>it is ah the government</i>
	24		<i>and</i>
19	25	Cin	<i>restrict</i>
20	26	Li	<i>not allow the</i>
21	27	Tiff	<i>no no no produce brought from overseas</i>

extract from Text 2

In the following excerpt, the presupposed CE *we* in messages 105 and 106 was retrieved from the CE *we* in the preceding message 104,

turn	mess	interactant	
73	104	Cin	<i>(do) we need to understand that?</i>
74	105	Li	<i>(we) don't need to mention</i>
75	106	Tiff	<i>(we do) no(t) need to mention</i>

extract from Text 4

The identification of the event orientation (EO) in relation to rhetorical activities concerns the time of the event being discussed, ie, whether it is habitual, concurrent, past or future. Adjuncts as well as dependent clauses can also express the temporal orientation of the event.

In the analysis of the spoken data here, the question became which of the rhetorical activities identified by Cloran (1994) in mother-child talk would be relevant to the largely second order metaphorical discourse of economics. The answer to this question is resolved by recognising Vygotsky's notion of the evolutionary relationship between "lower" natural mental functions and "higher" mental functions. Within guided instruction, the relationship between "lower" mental function, as in elementary perception, and "higher" mental functions, interpreted as the formation of concepts and problem solving, means that a continual interweaving occurs between these functions. In relation to Cloran's findings and this data, elementary perception as may occur in mother-child interactions is not superseded by the kinds of higher mental functions that the economic students were attempting. Rather, elementary perception, as Vygotsky (1987:xxix) explains, becomes embedded in higher more mature mental functions. The relationship between naïve perceptions and a mature psyche was considered by Vygotsky (1986:157) as a related unitary process. Childrens' "natural functions" are the building blocks of later higher cognitive functions.

An examination of the rhetorical activities involves identifying the lexicogrammatical features of the rhetorical activities and determining the criteria for the recognition of the classes of categories beyond broad discourse functions, viz, *definition*, *explanation* or *illustration*. For example, in the spoken data, if the lecturer uses RU Action *you add in the lower price* it is in contrast to the use of RU Principle *quantity supplied rises, quantity demanded falls* to construe an economic principle. Each RU achieves a

different rhetorical purpose. These will be described in detail in the following discussion.

To illustrate rhetorical activities within the tutorial discussion, the following extract from the lecturer's Text F has been segmented into its constituent RUs. The RUs have been identified according to the kinds of entities and events with respect to the time of the speech event, eg, past, concurrent, conditional future, etc.,

turn	mess	interact.		Rhetorical Unit		
288	496	Eco lecturer	<div style="border: 1px solid black; padding: 5px;"> <p><i>the price will go up continue to go up until these shortages disappear</i></p> <p><i>ooh</i></p> <p><i>and you'll only be left you'll only be left with imports</i></p> <p><i>ooh yes</i></p> <div style="border: 1px solid black; padding: 2px;"> <p><i>I know this is er</i></p> <p><i>= yeah</i></p> <p><i>= right</i></p> </div> </div>	Prediction		
289	497	students				
290	498	Eco lecturer				
291	499	Li				
	500				Commentary	
	501					
292	502	Eco lecturer				
293	503	See		<div style="border: 1px solid black; padding: 5px;"> <p><i>so this one's the shortage?</i></p> <div style="border: 1px solid black; padding: 2px;"> <p><i>no no that'll be imports</i></p> <div style="border: 1px solid black; padding: 2px;"> <p><i>that will be = imports</i></p> <div style="border: 1px solid black; padding: 2px;"> <p><i>= imports some imports are allowed</i></p> <p><i>oh</i></p> <p><i>it means that ah = ()</i></p> </div> </div> </div> </div>	Observation	
294	504	Eco lecturer				Prediction
295	505	Li				
296	506	Eco lecturer			Account	
297	507	See				
	508					
298	509	Li			Account	
	510					

extract from Text F

The relationship of embedding of the RUs in this extract illustrates the cohesive and coherent nature of the interactions and the functional relations between the units, ie, the justification for the observation and prediction. The relation between units is determined by patterns of thematic progression and by the non-structural textual resource of cohesion. This occurs as the lecturer explains the representational meaning of elements on the demand and supply graph in response to See's question, message 503, *so this one's the shortage?* The text 'hangs together' by various constituency relations between

units determined by progression of Thematic elements, eg, *imports – some imports*; componential cohesive devices which include co-reference, co-classification and co-extension, eg, *this one - that*, and also organic cohesive relations which are created typically by adjacency pairs such as question and answer, offer and acceptance, and command and compliance.

By contrast, RU analysis of the students' texts indicates significant difficulties in their attempts to draw the demand and supply diagram as an illustration of parallel importing. These difficulties are shown in the excerpt below from Text 3. Linguistically, the difficulties are characterised by the series of unrelated messages, punctuative messages and message fragments. Hence there is little or no relationship between any RUs,

turn	mess	interact.		Rhetorical Unit
62	78	Cin	<i>parallel importing is here</i>	Observation
	79		<i>so</i> <i>()</i>	
62	80		<i>do do we write dollar?</i>	Observation
	81		<i>to Q D</i>	
63	82	Tiff	<i>yah</i>	
64	83	Cin	<i>which one?</i> <i>()</i>	
	84		<i>parallel importing</i> <i>()</i>	
65	85	See	<i>straight line straight line ah</i>	Commentary
	86		<i>it's so cute eh</i>	
66	87	Tiff	<i>yes it's supposed to be flat</i>	
66	88		<i>alright?</i>	
67	89	See	<i>why (is it) flat?</i>	Observation
68	90	Tiff	<i>because something er</i>	
	91		<i>this one's flat</i>	
			[pause]	
69	92	See	<i>ahahaha but it's still very cute</i>	Commentary

[sts laugh]

extract from Text 3

The analysis of the tutorial discussion using Rhetorical Unit analysis therefore offers new and important perspectives in relation to dialogic learning and to economics as a service subject for business degree students. The purpose of this closer examination of

the rhetorical activities in the data is twofold: firstly; to determine linguistically the kinds of contingency strategies undertaken by both the lecturer and students; and secondly, to fulfil a principle aim of the study, ie, to offer further insights into semiotic mediation beyond descriptions of the interpersonal aspects of the mediation.

The complete analysis of Rhetorical Units in the spoken data is set out in Appendix A.

The network of central entities used in Cloran's (1994:236) analysis has been adopted here and extended to take account of metaphorical entities as second order meaning. Second order meaning, as discussed in Chapter 5, is realised in economic discourse as in other scientific discourse, by generalisations, abstractions, technicality, grammatical metaphor, lexico-grammatical metaphor and semiotic abstractions. However, the degree of congruence or metaphorisation of the CE is not a criterion which determines the type of RU. Rather the criteria, as Cloran (1994:115) explains, are,

i) the experiential identification of entities in terms of a) interactant; b) co-presence in or absence from the material situation; c) class-exhaustive or non-class-exhaustive reference;

ii) the orientation of events in terms of a) direction and distance from the moment of speaking; b) usuality; and c) hypotheticality.

If the functional use of language is conceptualised as a continuum, as suggested by Hasan (1985/89:58) and Cloran (1994), then these rhetorical activities may be represented as ranging along that continuum. At one end of the continuum is located the most ancillary as in Action, ie, language which is based in the material here-and-now; at the opposite end are meanings which are more generalised created by language itself as occurs with the construal of economic principles and theory. Figure 6.1 shows Cloran's (1994:132) representation of the classes of the rhetorical units along the continuum. The two additional RUs identified in this data, Avocation and Principle, have been included,

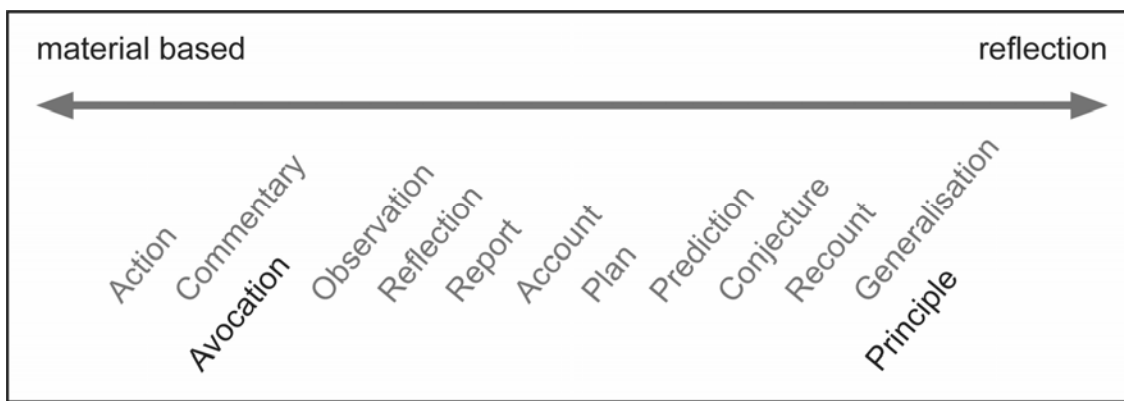


Figure 6.1 Classes of Rhetorical Units along the role of language continuum: showing newly identified Rhetorical Units, *Avocation* and *Principle*

One aspect of the meanings construed will become important in the analysis of RUs is the degree of congruence or metaphorisation expressed throughout the discussion. As noted, it is not these variations which determine the kinds of RUs used. What will become significant are the shifts in the kinds of CEs in each RU. For example, it will be seen that the CEs of RU Principle which express the classical syllogisms of economic principles and theory can shift from second order metaphoric CEs, eg, *equilibrium* to more congruent CEs *the price, buyers and sellers*. Therefore, it is the shifts toward more congruent vernacular CEs in the lecturer's use of RUs in her responses and mediation, and the students' appropriation strategies, that are of interest.

The number of Rhetorical Units used by the interactants in each text is shown below in Table 6.1,

	Economics lecturer						sub	Students						sub
	A	B	C	D	E	F	total	1	2	3	4	5	6	total
Action	1	2	2			3	8	2	3		3	1	2	11
Comment.	2	2	3	1		11	19	1	1	3	5	7	1	18
Avocation	2	1	1				4				4	2	4	10
Observation		1	2	1	2	2	8		1	2	1	5	3	12
Reflection	2	2	1	2		5	12		1		1	6	4	11
Report						1	1		2		1	4	2	9
Account	2	6	2	3	1	9	23		2		5	10	6	23
Plan									1					1
Prediction	1	3	2			8	14			1	1	5	5	12
Conjecture		2	2	1		2	7					1		1
Recount		1	1				2	1			2	1	1	5
Generalis'n	1	3	2	1	2	2	11		2	1	4	2	2	11
Principle	1		1			1	3						1	1
Total							112							125

Table 6.1 Rhetorical Units used by the Economics lecturer and students in each Text

Table 6.1 shows that the lecturer uses far fewer RUs at the ancillary end of the continuum compared with the students – Action (8:11) and Avocation (4:10). Interestingly, the lecturer and students use an equal number of RUs Account (23:23) and Generalisation (11:11). The lecturer uses more Conjecture (7:1) and Principle (3:1) than the students. Plan is used once by the students.

Defining Rhetorical Units and their role in the tutorial interactions

To illustrate RU analysis in detail, eight kinds of Rhetorical Units have been identified in the lecturer's Text A below – Action, Commentary, Avocation, Reflection, Account, Prediction, Generalisation, Principle. The descriptions following will provide examples of how the configuration of the central entity and event orientation determine each Rhetorical Unit. The discussion will also describe the other RUs identified throughout the tutorial discussion, Conjecture, Report and Plan.

In Text A, the lecturer's response to Li's questions, messages 184 and 186, *you know parallel importing? is [does] it become a market?* initially guides the students' drawing of the demand and supply diagram and then shifts to the relationship between the diagram and the principle and theory,

Text A

turn	mess	interact.		Rhetorical Unit
136	184	Li	<i>you know parallel importing?</i>	Reflection
137	185	Eco lecturer	<i>yes</i>	
138	186	Li	<i>is it become a market?</i>	Account
139	187	Eco lecturer	<i>yes but we've still got to go off from here</i>	Avocation
	188		<i>we've still got to assume perfectly competitive market structures</i>	
	189		<i>so we're still using demand and supply curves</i>	Comment'y
	190		<i>so what I said start off at thirty dollars with your demand curves</i>	Action
	191		<i>your flat supply curve</i>	
	192		<i>then to say well we'll allow</i>	Prediction
	193		<i>when we extend this</i>	
	194		<i>we have to include an outcover (?) policy</i>	Avocation
	195		<i>OK so you've got to then extend it</i>	
	196		<i>so you've got to put in a world price which is</i>	
140	197	Li	<i>world price?</i>	
141	198	See	<i>world world</i>	
142	199	Eco lecturer	<i>world price here yes right</i>	
	200	Eco lecturer	<i>and then what parallel importing does is it is at</i>	Principle
	201		<i>if the world price is lower</i>	
	202		<i>we've got this shortage</i>	Reflection
	203		<i>it's a shortage of product</i>	Account
	204		<i>and that's imports</i>	Generalis'n

The following descriptions draw on Cloran's (1994; 1995) definitions of Rhetorical Units. They begin with the RUs identified and illustrated in Text A and will then describe the other RUs identified throughout the tutorial discussion.

Reflection expresses the habitual state of affairs of an interactant. The lecturer uses RU Reflection in 12 instances; the students use RU Reflection in 11 instances. RU Reflection encompasses the two kinds of reference to interactants *you* and *we* as central entities in the data, ie, either as interactants here-and-now or as second order members of the interactant's speech fellowship, ie, economic community (discussed in Chapter 5 *Section 3 Multiple roles of we and you in the spoken data*). In the lecturer's use of RU Reflection, her reference to *you* and *we* is predominantly to second order central entities. In contrast, the students' reference to interactants varied between the two categories referring often to themselves *I don't know* and more latterly to the second order category in the final phases of their discussion in Texts 5 and 6.

The use of RU Reflection throughout the discussion contributes to the 'peripatetic' nature of the interactions, as is evident in Text A by the intrusion of reference to interactants into the construal of economic theory and procedures. It is these shifts between personification and metaphor, according to the literature, that contribute to students' confusion with the discourse.

Account consists of giving a linguistic account of a non-co-present non-class-exhaustive entity in terms of inherent attributes or characteristic functions. Here in Text A, message 186, *is(does) it(=parallel importing) become a market?* Li is seeking to understand an attribute of parallel importing. The lecturer and students both use RU Account 23 times. In the lecturer's explanations, RU Account is frequently the matrix RU, ie, her explanation began with an inherent attribute of the theory or model.

The students' questions constituting RU Account frequently sought to understand attributes and functions of the economic model, eg, *why does the government want parallel importing?*, *why restrict imports from overseas?*, *what's the parallel importing effects on price?*, *why do they(=buyers) want less?*

It is also noteworthy in the latter part of the students' discussion that RU Account constitutes the matrix RU in some instances, as shown in the extract below from Text 6. Here the students are attempting to relate inherent characteristics concerning the model of parallel importing to demand and supply theory, albeit congruently. This extract illustrates further the 'peripatetic' nature of the interactions, ie, between attempts to explain the model constituting RU Account and personal reflections constituting RU Reflection,

turn	mess	interact.		Rhetorical Unit
398	691	Li	<i>there's still there's still some somebody would like to buy not that more no</i>	Account
399	692	See	<i>oh it will be less demand</i>	Prediction
400	693	Tiff	<i>less?</i>	
401	694	Li	<i>less no more [laughs]</i>	
402	695	See	<i>aah you're right</i>	Reflection
	696		<i>nothing will have still [constant] demand unless ah even even even coffee</i>	Prediction
403	697	Li	<i>yes you know</i>	Reflection
			[sts laugh]	
404	698	Cin	<i>but but coffee</i>	
405	699	Li	<i>coffee have a constant demand</i>	Generalisation
406	700	See	<i>yah I know</i>	Reflection
	701		<i>that's right that's right</i>	

extract from Text 6

Action is the kind of activity involved in the giving and demanding of goods and services in which language is most ancillary, ie, most directly related to a material base and physical activities. Such an exchange can occur non-verbally. However, in Text A language is necessary as the lecturer, messages 190-191, issues a kind of command for an activity to be carried out *so what I said start off at thirty dollars with your demand curve [and start with] your flat supply curve.*

The lecturer uses RU Action 11 times; the students also use RU Action 11 times. The lecturer's use of RU Action typically initiated the activity or specific parts of the

activity, eg, *start here, start off with that demand and supply diagram, do the reverse of that*. The students' use of RU Action is associated frequently with the drawing of the demand and supply diagram, eg, *draw the rough diagram, just put the parallel importing line*.

Commentary is where a speaker comments on a state of affairs or an event in which a co-present, or at least the perceptually identifiable entity is engaged at the time of speaking. This is exemplified by reference to *we* in Text A, message 189, *so we're still using demand and supply curves*.

The lecturer uses RU Commentary 19 times; the students use RU Commentary 18 times. The lecturer's use of RU Commentary occurs most frequently in the latter phases of her explanations, as in the extract from Text F below, as her explanations of parallel importing become more congruent. The central entity in this extract is first order category *ten [CDs]*,

turn	mess	interactant	Rhetorical Unit
323	570	Eco lecturer	Commentary
324	571	Cin	
325	572	Li	

extract from Text F

The students' use of RU Commentary in the earlier parts of their discussion concerns questions choosing the [confirm] option to clarify how to proceed with aspects of their task, eg, *OK all these topics?, do we write dollar?*. In Texts 5 and 6 RU Commentary is used increasingly to calculate the price of CDs, eg, *what's the price now?; because the price is now twenty seven*.

Messages 192-193 in Text A constitute a **Prediction** which is a type of rhetorical activity involving future events or states. As Cloran (1995:386) points out, a Prediction is recognised under one of the following conditions: (a) the CE is the speaker, as in the instance in Text A construed as 2nd person inclusive *we*, and the future event is non-

volitional; or (b) the CE is an entity other than the speaker and the event is forecast to occur in the future.

The lecturer uses RU Prediction 14 times; the students use RU Prediction 12 times.

The goal of economics as an academic theory was described in Chapter 3 as the generation of economic predictions by way of explicit lawlike generalisations (see *Section 2 Socio-historical perspectives of economic discourse*). To achieve this goal, the theory uses a tripartite framework: economic theory constituted by predictions, which, in turn, are tested by theoretical models. This kind of reasoning is apparent in the use of RU Prediction in the lecturer's interactions throughout the discussion. While on the one hand, her use of Prediction at times guided students as to how to proceed with the assignment *now the people doing part two will reverse it*, it is the role of Prediction in the sequences construing a kind of predictive reasoning which is of particular interest. This kind of reasoning sequence is commonly constituted by RU Prediction followed by RU Account and/or Conjecture and Generalisation. An example of such a sequence is shown in the lecturer's response in the extract from Text B below. Here, Account expresses an outcome for the prediction. These patterns of predictive reasoning will be discussed in greater detail in Chapter 8.

turn	mess	interactant		Rhetorical Unit
152	226	Lily	<i>is there still a little shortage?</i>	Observation
153	227	Eco lecturer	<i>yes there will still be a little shortage</i>	Prediction
	228		<i>in fact that's what happens</i>	Generalisation
	229		<i>when they say QF to QD is the amount of imports that come into the economy without any parallel importing</i>	
	230		<i>that's just (a) free trade right?</i>	Prediction
	231		<i>then when they say well we'll only allow this amount of imports in</i>	
	232		<i>it creates a shortage from there to there and there to there</i>	Reflection
	233		<i>so we've got two sides of the shortage a shortage there to there</i>	
	234		<i>what does a shortage do?</i>	Account
	235		<i>forces the price up to PW</i>	

extract from Text B

The students' use of RU Prediction increased as they began to understand their task and they could offer some tentative congruent predictions in relation to the model of parallel importing as shown in the extract from Text 5,

turn	mess	interactant		Rhetorical Unit
221	369	See	<i>and ah we cut down the import(s)</i>	Observation
	370		<i>and and then it force(s) the price to go up because of this ah shortage of demands</i>	Account
222	371	Tiff	<i>so I say the price is higher</i>	Prediction
223	372	See	<i>yah the price will be forced to go higher</i>	
224	373	Tiff	<i>OK the price increase(s)</i>	Account
	374		<i>so</i>	Prediction
225	375	See	<i>the price will increase</i>	

extract from Text 5

While **Plan** and Prediction both involve future events or states, the basis of the distinction lies in the fact that Plan has as central entity, the speaker, realised

lexicogrammatically as 1st person pronoun, whether singular *I* or *we*, and the future event is volitional.

In fact, RU Plan was only used in one instance by the students in Text 2 during their negotiations concerning ways to proceed with their task,

turn mess interactant

16 20 Tiff

we better answer (=the question)

Plan

extract from Text 2

In RU **Conjecture** speakers speculate on what might or might not eventuate. As with Generalisation, Conjecture, as Hasan (1987; 1989) has found, is very much a feature of pedagogic discourse in determining consequence, implications, effects etc. In RU Conjecture the event of the basic message must have the semantic features i. [possible] or [likely] and ii. at the same time a supplementary message must express condition.

The lecturer uses RU Conjecture 7 times; the students use RU Conjecture once in Text 5.

The lecturer often began her responses with either Prediction or Conjecture as shown in the excerpt below from Text C,

turn	mess	interact.		Rhetorical Unit
160	266	See	<i>er do you mean that ah um by having parallel importing ah it's possible to push it to the equilibrium price?</i>	Commentary
161	267	Eco lecturer	<i>no no parallel um if we had parallel importing</i>	Conjecture
162	268	See	<i>hmm</i>	
163	269	Eco lecturer	<i>we would get imports QS to QD</i>	

extract from Text C

The students use of Conjecture occurred when they posed hypothetical questions to each other choosing the feature [apprize], for example,

turn	mess	interactant	Rhetorical Unit
226	376	Ken	Conjecture
	377		
227	378	Tiff	
	379		

extract from Text 5

The RU **Generalisation** consists of making class exhaustive reference to whatever class of entity is mentioned. Such class exhaustive entities are described in terms of characteristics (ie, timeless) attributes. Generalisation is the RU which defines and presents ‘the lawlike generalisations’ of economic discourse.

The lecturer uses RU Generalisation 11 times; the students also use RU Generalisations 11 times.

The lecturer’s use of RU Generalisation reflects the central concern of modern economic discourse, ie, to predict what is universally or at least generally true, rather than to impart from observations of a single event or experience at a particular time and place. An example of the role of Generalisation in the lecturer’s predictive reasoning is evident below in the extract from Text B. Here, Generalisation, which is embedded in Account, concludes the predictive sequence by identifying the essential function of parallel importing *it bans some of the imports*,

turn	mess	interactant		Rhetorical Unit
145	213	Eco lecturer	<i>then if you bring parallel importing into it</i>	Account
	214		<i>it pushes the price back up</i>	
146	215	students [collectively]	<i>hmm</i>	Prediction
147	216	Eco lecturer	<i>toward equilibrium you see</i>	
148	217	students [collectively]	<i>ooh</i>	
149	218	Eco lecturer	<i>because what it says effectively it says only that amount of imports can come in</i>	
	219		<i>because it won't allow all of those in</i>	Prediction
	220		<i>but it will allow this little bit of imports in</i>	
150	221	Li	<i>ooh</i>	Generalisation
151	222	Eco lecturer	<i>it bans some of the imports</i>	

extract from Text B

The students' use of RU Generalisation, on the other hand, is not interrelated with predictions as in the lecturer's explanations. In a couple of instances the students appeared to replicate her discourse albeit in a more 'peripatetic' manner, as shown in the excerpt from Text 4,

turn	mess	interactant		Rhetorical Unit
103	139	Tiff	<i>why () (?restrict) ah imports from overseas right?</i>	Account
	140		<i>so there may be a demand more than a supply</i>	Prediction
	141		<i>which the producers can really produce ==</i> <i>gloss: so local producers can supply the shortage</i> <i>== bu</i>	
104	142	See		
105	143	Tiff	<i>so the price will be</i>	
106	144	See	<i>but ah parallel importing the main reason to have this is to protect their own producers</i>	
	145	See	<i>so ah I don't think we have to um</i>	Avocation
107	146	Tiff	<i>but how (do) they == how</i>	
108	147	See	<i>== I mean I mean base base on the parallel importing we don't have to think about those ah demands</i>	
109	148	Tiff	<i>yeah OK if you if you what you ahum</i>	
109	149	Tiff	<i>but how they protect?</i>	Generalisation
110	150	See	<i>how they protect?</i>	
111	151	Li	<i>cause like I () producers right is like they produce I mean they take the I mean ah</i>	
112	152	Cin	<i>the copyright</i>	
113	153	Li	<i>the copyright</i>	
	154		<i>and (they) produce here you know</i>	
114	155	Cin	<i>(they do) not import</i>	
115	156	Li	<i>not import is to produce here</i>	

extract from Text 4

In addition to Cloran's findings, the two new RUs identified in the data are Avocation and Principle.

The central entity around which the discussion centres in RU **Avocation** is co-present interactant *you* and *we*. The event orientation is oriented to obligation, eg, *need to*, *have to*, *must*, hence the important role of RU Avocation in guiding students with their task,

as shown in the excerpts from Texts A and 4 above and Text C below. The lecturer uses RU Avocation 4 times; the students use RU Avocation 10 times.

turn	mess	interactant		Rhetorical Unit
169	294	Eco lecturer	<i>you need to draw a really big diagram like that right</i>	Avocation
170	295	Li	<i>because we draw [drew] the wrong diagram</i>	Recount
	296		<i>we thought is different from the tariff</i>	

extract from Text C

The other new RU **Principle**, as the name suggests, expresses the principles and syllogisms which construe economic theory, such as demand and supply theory. RU Principle is closely related in the data to RU Account which invariably expresses some inherent attribute or characteristic function of the model. Used to justify the theoretical underpinnings for the model, RU Principle therefore is either embedded in RU Account or in turn is the matrix RU for Account.

The lecturer uses RU Principle 3 times; the students use RU Principle once in Text 6.

Throughout the tutorial discussion the different construals of RU Principle offer insights into the shifts evident in the ideational patterns as the lecturer adjusts her explanations. For example, a metaphorical construal of demand and supply theory constituted as RU Principle is shown in the extract below from Text A,

turn	mess	interactant		Rhetorical Unit
142	200	Eco lecturer	<i>and then what parallel importing does is it is at</i>	Principle
	201		<i>if the world price is lower</i>	Reflection
	202		<i>we've got this shortage</i>	
	203		<i>it's a shortage of product</i>	Account
	204		<i>and that's imports</i>	Generalisation

extract from Text A

In the following use of RU Principle in Text F, the lecturer construes more congruent central entities in her explanations of the model; *shortage of CDs, the price, sellers and buyers*. This example illustrates the shifts from earlier constructions of conditional syllogisms to paratactic clauses. These shifts will be discussed more fully in Chapter 8.

turn	mess	interactant		Rhetorical Unit
311	543	Eco lecturer	<i>we're ten short</i>	Reflection
	544		<i>so that(=the shortage of CDs) starts to push the price up</i>	Principle
	545		<i>and as the price goes up</i>	
	546		<i>brings more sellers into the</i>	
	547		<i>and takes buyers out</i>	

extract from Text F

Also in Text C, shown previously, is RU **Recount**, message 295. The CE is the co-present interactant *we*. As Recount suggests, the activity has already taken place. The lecturer uses RU Recount twice; the students use RU Recount 5 times.

turn	mess	interactant		Rhetorical Unit
169	294	Eco lecturer	<i>you need to draw a really big diagram like that right</i>	Avocation
170	295	Li	<i>(because) we draw [drew] the wrong diagram</i>	Recount

extract from Text C

The rhetorical activities not yet met are Observation and Report.

Observation is defined as the kind of rhetorical activity which involves the characteristic states or activities of co-present objects or persons other than the interactants. The lecturer uses RU Observation 8 times; the students use RU Observation 12 times.

RU Observation in the following excerpt from Text B, message 251, shows the lecturer's focus on the co-present object, the assignment question,

turn	mess	interactant		Rhetorical Unit
153	251	Eco lecturer	<i>it(=the question) continues on from question three here</i>	Observation

extract from Text B

RU Observation, messages 441 – 443, in the excerpt below shows the lecturer's reference to the *the supply curve* on the co-present demand and supply diagram,

turn	mess	interactant		Rhetorical Unit
260	441	Eco lecturer	<i>the supply curve ==</i>	Observation
261	442	Li	<i>== ooh</i>	
262	443	Eco lecturer	<i>is further out to the right</i>	

extract from Text D

Report refers to the current but non-habitual states or activities of an absent person or object. The lecturer uses RU Report only once in Text F; the students use RU Report 9 times.

In the following excerpt from the lecturer's more congruent explanations of parallel importing, *it* and *that* in RU Report, messages 560, 562 and 564, refer anaphorically to *this much*, message 548, (not shown) being the number of CDs. Here the lecturer is comparing two amounts and is therefore making a distinction between *this amount* and *that amount*. If the lecturer had referred to this entity as *this amount* it would have constituted a Commentary,

In Table 6.2 only those semantic features which are criterial in the recognition of the class of RU are shown. This description of the semantic features draws on Cloran (1994:247-248). A plus sign (+) indicates that this feature must be present; a minus sign indicates that the term opposing this feature must be present, eg, the minus sign in the column at the head of which is the term [co-present] indicates that the feature [absent] must be present for the recognition of the RU Account. Where the presence of a semantic feature is immaterial to the recognition of a RU this is indicated by +/- . Thus whether or not the event of a Recount is [habitual] is immaterial in the recognition of this RU. Note that for the recognition of the three RUs – Plan, Conjecture, Recount – it is event orientation that is criterial; these RUs are not ‘known’ by the kind of CE to be found in the constituent messages. Further, within EO, the choices of systems of Time and Assessment are relevant since it is the differences in the configuration of the options in these systems that set the categories apart.

Collaborative Rhetorical Units: illustrating the students’ co-operation

The degree of collaboration and co-operation in the students’ discussion is reflected in several instances where the message constituting the RU is constructed over several turns by different speakers. The following excerpt from Text 2 shows one such instance,

turn	mess	interactant		Rhetorical Unit
16	21	Tiff	<i>what's parallel importing?</i>	Generalisation: collaborative
17	22	See	<i>ah</i>	
18	23	Li	<i>it is ah the government</i>	
	24		<i>and</i>	
19	25	Cin	<i>restrict</i>	
20	26	Li	<i>not allow the</i>	
21	27	Tiff	<i>no no no produce brought from overseas</i>	

extract from Text 2

Relating Rhetorical Units

It is apparent from the extracts of the spoken data discussed above that many of the Rhetorical Units (RU) are embedded within other RUs, and others, as will be shown, are not related.

A. The embedded relationship between Rhetorical Units (RUs)

The relationship of embedding obtains when an RU serves some function within the context of a preceding RU. The embedding of RUs in this data occurred most typically when the lecturer, in response to a student question, explained a prediction-consequence in relation to the economic model as shown in the extract from Text B below,

turn	mess	interactant		Rhetorical Unit
152	226	Lily	<i>is there still a little shortage?</i>	Observation
153	227	Eco lecturer	<i>yes there will still be a little shortage</i>	Prediction
	228		<i>in fact that's what happens</i>	Generalisation
	229		<i>when they say QF to QD is the amount of imports that come into the economy without any parallel importing</i>	
	230		<i>that's just (a) free trade right?</i>	Prediction
	231		<i>then when they say well we'll only allow this amount of imports in</i>	
	232		<i>it creates a shortage from there to there and there to there</i>	Reflection
	233		<i>so we've got two sides of the shortage a shortage there to there</i>	
	234		<i>what does a shortage do?</i>	Account
	235		<i>forces the price up to PW</i>	

extract from Text B

The prediction-consequence sequence will be revisited in Chapter 8.

The embedding of RUs is determined by patterns of thematic progression and the non-structural textual resource of cohesion. Theme, as Halliday (2004:64-65) explains, “is

the element which serves as the point of departure of the message; it is that which locates and orientates the clause within its context...whatever is chosen as the Theme is put first". Similarly, Halliday (1993:60) points out, Theme could be "the summation of a fairly complex argument". The remainder of the message is called the Rheme, drawing on Prague school terminology,

<i>we</i>	<i>drew the wrong diagram</i>
Theme	Rheme

In a declarative message, the topical Theme maps onto the Subject, or, as Halliday (2004:73) explains, "unless there is good reason for choosing something else". The optional textual Theme can contain conjunctions and conjunctive adjuncts. These can include *and, when, if, for this reason*. Textual Themes can also contain continuatives being the words which signal a move in the discourse and can include *yes, no, well, oh, now*. The optional interpersonal Theme can include finite verbal operators *Can you draw the graph?*; a Wh-element *Why do they use the parallel importing ban?*; a modal adjunct *unfortunately our graph was the wrong one*; or, a vocative *Li can I use your ruler?*

Thematic progression

The relationships of embedding and expansion of RUs is determined by Cloran (1994; 1995) primarily through the existence and location of cohesive links within the thematic structure of the clause realising a message. Drawing on the work of Prague linguist, Daneš (1974:109), Cloran (1995:387ff) explains that the embedded status of an RU is typically indicated by two possible thematic patterns (TP): i. Theme – Theme; and, ii. Rheme – Theme.

i. Embedded pattern: Theme - Theme

The RU Prediction beginning at message 496 in the following excerpt from Text F is considered to be embedded in the previous RU Account because of the cohesive link between Themes in each RU – *the parallel importing price* and *it(=parallel importing price)* in Account and *the price* in Prediction,

turn	mess	interactant		Rhetorical Unit
283	488	Li	<p><i>and the ban price and the ban price I mean the parallel importing price is set by the government? or is it == ? == no no it's == == 's not set by anybody == == it's er it's just it's set by the shortage</i></p> <p>the price will go up continue to go up until these shortages disappear</p> <p>ooh</p>	Account
	489			
284	490	Eco lecturer		
	491			
285	492	Li		
286	493	Eco lecturer		
287	494	Li		
288	495	Eco lecturer		
	496			Prediction
289	497	students [collectively]		

excerpt from Text F

ii. Embedded pattern: Rheme – Theme

The other key system which constructs textual meaning is Theme and Rheme. The typical pattern between clauses is to create a progressive pattern from one to the other, ie, from the Rheme of a message to the Theme of the subsequent message. Alternatively, as in the following excerpt from Text C, there is a rhetorical effect in respect of Theme, as Halliday (1993b; 1998) explains, in which the Theme is backgrounded and the Rheme is foregrounded as a hyper-Rheme *four effects* and referent *those*, messages 260 and 261, for the subsequent Themes, messages 262 – 265, *price, quantity supplied, quantity demanded, imports,*

turn	mess	interactant		Rhetorical Unit
159	260	Eco lecturer	<p><i>and then it says four effects</i></p> <p><i>and those are the same as a tariff</i></p> <p><i>price goes up quantity supplied rises quantity demanded falls and imports fall to the right amount</i></p>	Generalisation
	261			Account
	262			Principle
	263			
	264			
	265			

excerpt from C

Textual Themes in the construal of predictive or implication sequences

Many of the lecturer's explanations, as suggested, are construed as predictive or implication sequences. Implication sequences in scientific and economic discourse tend to be causal interpretations of experience comprising clause complexes which arrange a sequence of events, i.e. things happen to other things in a cause and effect relationship. The thematic pattern in implication sequences can be achieved between Rheme and subsequent Theme, or by textual Theme, most commonly by conjunctions and conjunctive adjuncts. Indeed, the thematic patterning between the embedded RUs which construct most implication or predictive sequences in the lecturer's explanations is constructed by textual Theme *and*, *so*, *once*, *because*, *so* and *but* as shown in a further excerpt from Text F,

turn	mess	interact.		Rhetorical Unit
321	568	Eco lecturer	<i>local suppliers are prepared to s-sell = sixty five</i>	Account
322	569	Cin	<i>= sixty five</i>	
323	570	Eco lecturer	<i>and = ten is coming in from imports</i>	Commentary
324	571	Cin	<i>= ten from imports</i>	
325	572	Li	<i>ooh yes</i>	
326	573	Eco lecturer	<i>so price will stop going up</i>	Prediction
	574		<i>once you've reached that level there</i>	
	575		<i>it won't go up to thirty</i>	
327	578	Li	<i>OK</i>	
328	579	Eco lecturer	<i>because thirty is the equilibrium without any imports</i>	Account
329	580	Li	<i>yes yes</i>	
330	581	Tiff	<i>mm</i>	
331	582	Eco lecturer	<i>so that's where they're talking about the seven dollar</i>	Commentary
332	583	Li	<i>and ah</i>	
333	584	Ken	<i>but there's a cut</i>	Account
334	585	Li	<i>for the seven dollar cuts is it?</i>	

extract from Text F

Organic cohesive relations

Organic cohesive relations are created by adjacency pairs such as question and answer, offer and acceptance, and command and compliance, as well as by conjunctions. In the following excerpt from Text F, an adjacency pairing occurs in a kind of offer and acceptance between Li's interpretation in RU Account and the lecturer's confirmation in the embedded RU Commentary,

turn	mess	interactant		Rhetorical Unit
351	615	Li	<i>and the price is higher</i>	Account
	616		<i>and the buyer maybe can't afford it</i>	
			=	
352	617	Eco lecturer	<i>= that's right</i>	Commentary

extract from Text F

B. Expanded relationship between Rhetorical Units

The relationship of expansion between RUs is indicated by a dotted horizontal line. The excerpt below from Text B shows that there are two RUs standing in an expanding relationship, Conjecture, messages 241-242, and Commentary, messages 243-244. The relationship between the two RUs is formed by *a million* in message 242 and *a million* in message 243. However the location of the cohesive ties is in the Rheme thus giving a thematic pattern Rheme ^ Rheme. This cohesive relationship between the two Rhemes Cloran (1995:392) considers to be related by expansion,

turn	mess	interactant		Rhetorical Unit
153	241	Eco lecturer	<i>when if there was just free trade</i>	Conjecture
	242		<i>you might have a hundred thousand CDs two hundred thousand or a million being imported every year</i>	
	243		<i>we say only now we start with a million</i>	Commentary
	244		<i>now we can only import half a million</i>	

extract from Text B

Problem messages in the analysis of the tutorial discussion

In the analysis of the tutorial data, the following types of messages were excluded: i. those having the feature [punctuative]; ii. unintelligible messages, and iii. those in which the retrieval of ellipsis was problematic. These types of messages are shown in the extract from Text 3,

interactant

Li *you draw the the once*

Tiff *hey do we need to = er*

Li *= no no no shift in the [laughs] no shift!*

See *supply ah*

Cin *so*

[]

Cin *to Q D*

Tiff *yah*

Cin *which one?*

[]

parallel importing

[]

extract from Text 3

This extract concerns the drawing of the demand and supply diagram. The density of [punctuative] messages illustrates the difficulties the students experienced illustrating the model diagrammatically.

Summary and prospective

As seen in the descriptions above, the classes of the Rhetorical Unit may be related to each other either by embedding or by expansion. The boundaries of particular RUs are determined by patterns of cohesion and their relations to other RUs by thematic progression patterns. More coherent texts, ie, where the discussion ‘hangs together’—as in the lecturer’s responses—are characterised not just by Rhetorical Units which are closely related but by the embedding of Rhetorical Units within others. The embedded

relationships between RUs in classroom talk could include a rationale for directions, a consequence of a prediction, the cause for a conjecture etc. Conversely, as will be seen particularly at the outset of students' discussions, confusions and difficulties in their comprehension of their task is characterised by non-cohesive texts and unrelated Rhetorical Units.

The actual functions of the RUs such as Commentary, Prediction, Conjecture, Account, Generalisation and Principle in the context of spoken economic discourse will be examined using the critical pedagogical discourses of the classroom, the regulative and the instructional, identified by Bernstein. Thus, the following chapter will open with a discussion of the relation between Bernstein's notion of the regulative and instructional discourses as constituents of pedagogic discourse. Using RU analysis, the investigation will begin with an examination of the students' self-regulation of their assignment task as the students weave between their use of the regulative and the instructional discourse.

Then an extended investigation of the instructional discourse will use Cloran's (2006 draft:2) characterisation of the structure potential for instructional discourse. The discussion will define and exemplify the various functional elements identified in the tutorial data. The semantic realisation of each element is made possible by the linguistic resources offered by Rhetorical Unit analysis. From this analysis, it is intended to determine the contingency and appropriation strategies undertaken throughout the tutorial discussion.

Chapter 7

Semiotic mediation of the students' learning: using Bernstein's characterisation of pedagogic discourse

The chapter opens with a discussion of the relation between Bernstein's theory of the regulative and instructional discourses as constituents of pedagogic discourse. Bernstein's theory establishes that the regulative discourse is a discourse of order which regulates how knowledge is transmitted; the instructional discourse is a discourse of competences which refers to what skills and meanings are being construed. By taking Bernstein's characterisation of the regulative discourse as a beginning point in the investigation, the problems of identifying the regulative discourse in university education will be discussed. The analysis of the tutorial data begins with an examination of the students' self-regulation of their assignment task. In particular, the analysis of the student data focuses on the relation between the two discourses. The aim of the initial investigation here is to examine the possible self-mediation by the students of their assignment task.

The investigation in Section 2 then moves to an examination of the lecturer and students' use of the instructional discourse. The shifts identified in experiential meaning in the spoken data, described in Chapter 5, will be further investigated. Using Cloran's (2006 draft:2) characterisation of the structure potential for instructional discourse, the discussion will define and exemplify the various functional elements identified in the tutorial data. The functional elements of interest are *Orientation* ^ *Procedure* ^ *Exposition* ^ *Thesis* ^ *Argument*. The semantic realisation of each element is made possible by the linguistic resources offered by Rhetorical Unit analysis. Rhetorical Units were defined and illustrated in the previous chapter. The analysis will take account of the kinds of RUs and the relation between RUs. From the analysis, it is possible to determine particular contingency and appropriation strategies undertaken throughout the tutorial discussion.

It is acknowledged throughout this study that students do not come to university equipped with the language of economics or indeed the language to explain economic models. This chapter is concerned primarily with this attempt to introduce more constructivist learning and teaching methodologies into a university curriculum involving economics for second language business students. The initiative and the use of extensive dialogue as a learning methodology rests on a recognition that the conceptual demands placed on these students, as transnational students in the third year of their degree program, equate with Vygotsky's (1986:149) finding that the difficulty with educational knowledge lies in its "abstractness and detachment from reality". An additional challenge facing second language students is that their 'everyday knowledge' has been construed in languages other than English and in cultures in which semiotic practices may differ markedly from the Western propensity for high levels of technical and scientific knowledge construed in written discourse.

Bernstein's characterisation of pedagogic discourse

The pedagogic discourse that students encounter at school and university, according to Bernstein (1990:183), is a reproduction of other specialised discourses. It is a discourse which appropriates and relocates the skills and competencies of other discourses and brings them into a special relation in a process of *recontextualisation*. This recontextualised discourse is a discourse of imaginary subjects within imaginary practice. As Bernstein (1990:184) explains,

In the process of the de- and relocation the original discourse is subject to a transformation which transforms it from an actual practice to a virtual or imaginary practice.

In Bernstein's sense, the students in this study are not appropriating the actual practices of professional economists; rather they are being initiated into a reproduced discourse expressing imaginary practice. This relocated practice constitutes the instructional discourse—one of the two significant discourses within Bernstein's characterisation of pedagogic discourse. The other discourse, the regulative discourse, concerns the way

teachers choose to control and regulate the transmission of the instructional discourse. Of the relation between the two discourses, Bernstein (1990:183) explains,

We shall define pedagogic discourse as the rule which embeds a discourse of competence (skills of various kinds) into a discourse of social order in such a way that the latter always dominates the former. We shall call the discourse transmitting specialised competences and their relation to each other *instructional* discourse, and the discourse creating the specialised order, relation and identity *regulative* discourse.

The use of the regulative discourse is recognised in the literature to be the domain of the teacher in power relations with students. In more junior contexts, a characterisation of the regulative discourse is shown by Hasan (2001) and Cloran (2006 draft) to be the kind of moral order into which young children are inculcated in the first few weeks of schooling. It is the clear conception of teachers, as Hasan (2001:72-73) explains, “of what it is to participate in a teaching-learning context”. In order to participate effectively in such a context, students need to internalise the standards of conduct as a sign of voluntary control of one’s behaviour. The regulative discourse is found typically at the outset of lessons as the teacher directs the students’ activities and draws the students’ attention so that the instruction may proceed (Christie, 1998:159-160; Cloran, 2006 draft:9). The instruction, nevertheless, can be interrupted, as in Cloran’s (2006 draft:9) findings, while the teacher attends to regulative matters.

The interpretation of the regulative (register) discourse in primary education by Christie (1998) relates more to directives and goals than punitive commands. The effect of the regulative discourse, according to Christie (p.160), is to signal to students that directions are being given for the activity *right, OK, now we are going to start our theme ... you’ll be making ...*. Features of interest in Christie’s findings in relation to this investigation concern students’ regulation of their own activities; students invoke the regulative discourse as they negotiate their task.

In this data, it is the students who use the regulative discourse as they self-regulate their attempts to undertake the assignment. However, any ‘intimate intertwining’ of the regulative and instructional discourses or strongly framed directives, identified by

Cloran (draft:10) in her studies of Year 7 (high school) students, do not occur in the students' negotiations.

Determining the distinctive features of the regulative discourse in a university context

What constitutes Bernstein's notion of the regulative discourse, however, remains somewhat confused. The confusion arises from the interpretations discussed in the literature, identified variously as 'moral order' and 'teacher's goals'. While it can be argued 'moral order' and a 'teacher's goals' may well be synonymous, Bernstein (1990:184) himself concedes, it is not at all obvious how the regulative discourse creates order, relation, and identity in instructional discourse. As the students in this study self-regulated their own activities, albeit with difficulty, their directives *we better answer [now]* are quite obviously different from a teacher's desire to maintain moral order in the classroom with strongly framed punitive commands such as *shush* and *hands up*, or to communicate curriculum goals such as *today we're going to ...*. Distinguishing between the two discourses in this data therefore proved to be problematic.

Being an older cohort, the students in this study had been well inculcated, no doubt, over many years of schooling, as to what it is to participate in a lesson. Hence, it could be expected that any self-regulation by these students would be construed differently from the regulation imposed by the teacher on younger students. The distinction between regulative discourse interpreted both as punitive commands and curriculum goals can be explained, in part, by the continuum between strongly framed commands on one axis and more weakly framed expression of goals on the other. Whatever the distinction, the purpose of recognising each discourse here is to determine: i. how well the students understood their task, and, ii. how effective they were in undertaking it.

If Bernstein means that moral and social order have "to do with the teacher's goals for the curriculum activity" and directives as in Christie's (1998:154) interpretation of the regulative (register) discourse, then it may be argued the lecturer in this study has a kind of *specialised* goal within the curriculum. She appears to use a specialised *second order* regulative discourse throughout the tutorial discussion. It could be claimed that her use

of this discourse is to facilitate the students' acquisition of economic practice, albeit relocated and imaginary. This category appears to fulfil Bernstein's notion of a discourse which is removed and refocused from its substantive practice and context into an imaginary virtual practice, ie, a second order specialised practice. The 'second order-ness' of the discourse could relate to the specialised activity involving economic phenomena, in particular, the drawing of the supply and demand diagram. Within such a proposition, *first order* regulative discourse would relate to more general educational activities.

To further support this claim, the linguistic features of the proposed specialised regulative discourse appear to mirror those of the regulative discourse (register) described by Christie (1998:160). The shared features with Christie's interpretation include reference to the students *we* and *you*, except here they are construed as second order participant members of the economic community. As in Christie's findings, the transitivity choices shown below are material processes involving somewhat field specific activities, eg, *start*, *add on*, *push*, *bring*. An important distinction could be that circumstance and range of a *second order* regulative discourse extend to specialised elements of economic phenomena, eg, *here at equilibrium*, *to whatever the world price is*.

Text	turn	mess	Medium	Process	Agent	Range	Circumstance
B	142	208	<i>you</i>	<i>might start</i>			<i>here at equilibrium</i>
	142	209	<i>foreign trade</i>	<i>add on</i>	<i>[you]</i>		
	142	210	<i>the price</i>	<i>push</i>	<i>[you]</i>	<i>[[to whatever the world price is]</i>	
	145	213	<i>parallel importing</i>	<i>bring</i>	<i>you</i>		<i>Into it</i>

Table 7.1 Linguistic features of proposed specialised regulative discourse showing Material processes

To extend the argument further, it could be also claimed the *second order* regulative discourse is often realised as a command RU Action, message 209, *add on foreign trade* as shown in Text B below and can be just as strongly framed as in the *first order* regulative discourse,

turn	mess	interactant		REGULATIVE 2 nd order
142	208	Eco lecturer	<i>first of all you might start here at equilibrium</i>	Conjecture
	209		<i>and say add on foreign trade</i>	Action
	210		<i>push the price to whatever the world price is</i>	
143	211	Li	<i>yes yes</i>	
144	212	students [collectively]	<i>ahha</i>	
145	213	Eco lecturer	<i>then if you bring parallel importing into it</i>	Account
	214		<i>it pushes the price back up</i>	
146	215	students [collectively]	<i>hmm</i>	
147	216	Eco lecturer	<i>toward equilibrium you see</i>	
148	217	students [collectively]	<i>ooh</i>	
149	218	Eco lecturer	<i>because what it (=parallel importing) says effectively it says only that amount of imports can come in</i>	INSTRUCTIONAL
	219		<i>because it won't allow all of those in</i>	Prediction
	220		<i>but it will allow this little bit of imports in</i>	
150	221	Li	<i>ooh</i>	

excerpt from Text B

To continue the claim linguistically, in Text B, RU Account, message 214, embeds the instructional discourse in the *second order* regulative discourse in RU Conjecture. Within this proposition, strategies appear to be undertaken by the lecturer to make the relationship between her “regulative directives and goals” and the instructional theory explicit and weakly framed. It could be claimed there appears to be a logical ‘handover’ from *you* as Agent in the specialised regulative discourse to *parallel importing* and its referent *it(=parallel importing)* as Agent in the instructional discourse. The ‘paradigm *we* and *you*’ are then omitted from the instructional discourse and the focus shifts from

regulating the illustration of the economic model to an explanation of the effects of the model.

This proposition has been presented to highlight the difficulties of applying the different interpretations of Bernstein's ideas of a regulative discourse, as discussed in the literature, to a university context. It seems the *second order* nature of the interactions concur with Bernstein's identification of the regulative discourse as virtual and imaginary abstractions. However, it will be conceded that any sense of a *second order* economic regulative discourse as a specialised discourse used by the lecturer is more likely a feature of the instructional discourse. The lecturer's directives for students to draw the diagram are construed as a procedural text and so show features of instructional content. These features will be discussed more fully in Section 2 in this chapter.

The absence of any regulation of the students' activities by the lecturer here may be due to two factors. First, the lecturer was more concerned with objective knowledge than subjective interpersonal knowledge. This feature of the lecturer's interactions concur with Hasan (2001:74) and others' findings, that the superior status given to objective knowledge in education over subjective knowledge shows how much is taken for granted by teachers – it is frequently assumed students will know how to proceed with their tasks. It can be argued in mass university education that the limited role of interpersonal relationships between lecturer and students, unlike more junior educational contexts, puts at risk opportunities for the fundamental guidance of students as advocated in Vygotsky's ideas. Second, if the students' activities during the tutorials were regulated in Bernstein's sense, it was by myself in my role as 'classroom manager' during the tutorials (see Chapter 3 *Nature of the data*).

The analysis of the data now takes account of the students' use of the regulative discourse. The analysis will attempt to gauge the students' understanding of how to proceed with their task. In particular, the analysis will attempt to determine their understanding of the relation between drawing the supply and demand diagram and the model of parallel importing.

To reiterate before proceeding, the regulative discourse for the purposes of this examination is operationalised as communicating the interactant's goals; the instructional discourse reveals the characteristic features of the competences and their relations' inherent in economic discourse, ie, what meanings are construed throughout the discussion.

Analysis of the data

Section 1

Students' attempts to regulate their assignment task

This analysis of the students' interactions is intended to offer further insights into dialogic mediation within the dynamics of small group interactions in higher education. The results address the broad scope of findings in the literature in relation to the role of small groups collaborating in educational tasks. These findings range from studies that advocate dialogic learning to the oft-quoted claim in university education that working in small groups is no more than 'the blind leading the blind'.

In Chapter 5, a synoptic view of the interactions indicated that the students' appeared to experience considerable difficulties with their assignment task. The difficulties appeared to relate to three aspects of their assignment task. These include: the students' impoverished understanding of the economic model; the relation between the model of parallel importing and the theory of supply and demand; and, the symbolic meaning of the demand and supply diagram.

In order to understand these difficulties more fully, the particular questions to be addressed here are:

How do the students negotiate their undertaking of their task as peer mentors?

What are the particular sources of their apparent confusions?

The examination of the ways the students shift between the regulation of their task and the instructional experiential discourse involves their responses to questions posed to

each other in Texts 1 – 4. These texts precede the lecturer's discussions with the students. The examination of the two discourses will entail analysis of the relation between constituent RUs of each discourse. It is hypothesised here that unrelated RUs in the students' data are an indication of the students' difficulties in relation to knowing how to proceed with the task.

Text 2: getting started

An indication of the students' difficulties is evident in the peripatetic shifts between the students' use of the regulative and instructional discourses as shown in the excerpt from Text 2 below,

turn	mess	interact.		
				REGULATIVE
6	9	See	<i>OK (do we do) all these topics?</i> <i>no we (have to) pick and choose</i> <i>we we (have to) pick and choose</i>	Reflection
7	10	Li		
8	11	Cin		
9	12	See	<i>OKKK discuss together</i>	Action
	13	See		<i>eh first of all ah this first dot point</i> <i>there is a ban there is a ban on the</i> <i>like like like the CDs</i>
10	14	Li	<i>question says what how much</i> <i>parallel importing is</i>	Commentary
11	15	Tiff	<i>give affirmations for</i> <i>parallel parallel</i> <i>define importing</i> <i>importing [extends final syllable]</i>	Action
12	16	See		
13	17	Cin		
14	18	Li		
15	19	See		<i>Li [mimics Li's exaggerated</i> <i>pronunciation]</i> <i>[students laugh]</i>
16	20	Tiff	<i>we better answer (=the question)</i>	Plan
				INSTRUCTIONAL
	21		<i>what's parallel importing?</i> <i>ah</i> <i>it is ah the government</i> <i>and</i> <i>restrict</i> <i>not allow the</i> <i>no no no produce brought from</i> <i>overseas</i> <i>nah</i> <i>right?</i>	Generalisation
17	22	See		
18	23	Li		
	24			
19	25	Cin		
20	26	Li		
21	27	Tiff		
22	28	Li		
23	29	Tiff		
24	30	See		<i>ohhoho that's that's ah a part of it</i> <i>[continued ...]</i>

extract from Text 2: getting started

This extract shows the beginning point for the students working together on their assignment. The particular foci of interest in the excerpt are the two questions, message 9, *OK [do we do] all these topics?* And, message 21, *what's parallel importing?* The

responses to these questions indicate the students' hesitations and their need to invoke the regulative discourse to confirm how to proceed, messages 10 and 11, *no we pick and choose*. The second question posed by Tiff *what's parallel importing?* reveals she had not done the required preparatory reading for the tutorial, or possibly, did not comprehend it.

The aim of the assignment as discussed previously had been twofold. The first was to outline demand and supply analysis in order to illustrate the effects of parallel importing on the CD market in a demand and supply diagram. The second aim was to integrate the diagram as evidence into the students' written explanations. In the brief discussion beforehand (Text 1), the students had negotiated for one member of the group, Cin, to draw the diagram.

The extract begins with the shift between the regulative discourse and the instructional discourse indicated by the embedded RUs Action and Account in the matrix RU Reflection. In this interaction, See invokes the regulative discourse by his question *OK all these topics?* expressed in RU Reflection, message 9, which checks the scope of their task. Li and Cin were able to clarify how they needed to proceed. See then assumed a somewhat authoritative role in the group by the use of a command in RU Action *OK discuss together*. He then shifted into the instructional discourse in RU Account, message 13, by focussing on parallel importing *there is a ban on the CDs*. The embedding of RU Account in Reflection, and hence the shift between the two discourses, is realised by the thematic progression of the textual Theme *first of all*.

Despite the high degree of co-operation, any sense of the instructional discourse embedded in, intertwined, projected or in any way related to the regulative discourse is absent here in the students' negotiations,

[Reflection [Action] [Account]][Commentary][Action] [Plan] [Generalisation [Account]]

regulative	instructional	reg	instructional
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The initial construal of the instructional discourse in Text 2 is constituted by RU Commentary and the embedded RU, messages 14-18. The instructional discourse is

unrelated to the preceding regulative discourse indicated by the unrelated RUs; it is here the students' focus shifted to remediate their understanding of parallel importing. The students' definition of parallel importing is expressed in RU Generalisation. The students' discussion extends over many messages 21-62, ie, beyond this extract (see Appendices A and B for a full transcript and Rhetorical Unit analysis), as they collaboratively negotiated the meaning of parallel importing.

The students' tentativeness is unsurprising at the outset of the discussion. It may be argued that they would have proceeded with greater confidence if they had received more guidance and mediation from the lecturer. Conversely, it may be speculated that if the students had sought to define parallel importing in the presence of the lecturer, they would have exposed their lack of background knowledge, particularly as it involved one of the most regulated and strongly framed activities in education, homework. Having the opportunity to negotiate its meaning as a student group appears, in this instance, to offer a critical opportunity to remediate their collective understanding before proceeding.

Text 3: difficulty illustrating the model using Marshall's demand and supply diagram

Once the students had defined parallel importing, they then turned their attention to drawing the demand and supply diagram as shown in Text 3 below. Text 3 represents a similar tentative construal of the two discourses indicating again the students' lack of understanding as to how to proceed. The students' uncertainty in this text involves the regulative discourse in relation to the management of the task, for example,

turn	mess	interactant	
50	63	Li	<i>we need the graph already the</i>
51	64	Cin	<i>mm?</i>
52	65	See	<i>why eh?</i>
	66	See	<i>we are not presenting now</i>

extract from Text 3

Their uncertainty also involves their use of the instructional discourse. It is apparent the students are unsure how to illustrate the model using the demand and supply diagram. Their questions seek to confirm their understanding of the elements which construct the

diagram, message 80, eg, *do we write dollar?* and to apprise information, eg, the symbolic meaning of elements, message 87, *why [is it(=line)] flat?:*

turn	mess	interactant	
62	80	Cin	<i>do do we write dollar?</i>
	81		<i>to Q D</i>
63	82	Tiff	<i>yah</i>

extract from Text 3

turn	mess	interactant	
66	87	Tiff	<i>yes it's supposed to be flat</i>
66	88		<i>alright?</i>
67	89	See	<i>why [is it] flat?</i>
68	90	Tiff	<i>because something er</i>
	91		<i>this one's flat</i>

extract from Text 3

More specific linguistic evidence of the students' uncertainty is apparent in: i. their punctuative messages and message fragments; and, ii. unrelated RUs, for example,

turn	mess	interactant		
				REGULATIVE
50	63	Li	<i>we need the graph already the mm? () why eh? we are not presenting now I know!</i>	Commentary
51	64	Cin		
52	65	See		
	66			
53	67	Cin		
				INSTRUCTIONAL
	68	Cin	<i>must ah must ah keep saying that the price of CDs is for example is twenty dollars and now it's ah for thirty dollars the quantity demanded ah quantity sup=^{plied} traded =^{quantity traded will be one hundred thousand = and =^{hundred thousand}}</i>	Commentary
	69			
54	70	See		
55	71	Cin		
56	72	See		Prediction
57	73	Cin		
58	74	Li	<i>you draw the the once</i>	?REGULATIVE
59	75	Tiff	<i>hey do we need to = er</i>	
60	76	Li	<i>= no no no shift in the [laughs] no shift!</i>	?INSTRUCTIONAL
61	77	See	<i>supply ah</i>	
				INSTRUCTIONAL
62	78	Cin	<i>parallel importing is here</i>	Observation
	79		<i>so ()</i>	INSTRUCTIONAL
	80		<i>do do we write dollar?</i>	Reflection
	81		<i>to Q D</i>	
63	82	Tiff	<i>yah</i>	
64	83	Cin	<i>which one?</i>	
	84		<i>() parallel importing ()</i>	INSTRUCTIONAL
65	85	See	<i>straight line straight line ah it's so cute eh yes it's supposed to be flat alright? why (is it) flat? because something er this one's flat [pause] ahahaha but it's still very cute</i>	Commentary
	86			
66	87	Tiff		
	88			
67	89	See		
68	90	Tiff		
	91		Observation	
69	92	See	<i>[pause] ahahaha but it's still very cute</i>	Commentary
			<i>[sts laugh]</i>	

Text 3

Again, any sense of an ‘intertwining’ of the two discourses as the students negotiated the drawing of the diagram is absent here,

[Commentary][Commentary[Prediction]][Observation][Reflection][Commentary[Observation]Comment]



A minor instance of collaboration in RU Prediction, messages 70-71, occurred when Cin offered See a more accurate term *traded* rather than *supplied*. In messages 85-92 See queries the reasons for one of the lines in the diagram being flat. Tiff is unable to explain the reason, instead she refers to another example as justification, message 91, *this one's flat*. See, the only male student among the five students, offers a conciliatory compliment by commending the “cuteness” of the diagram.

Again it may be argued, in the absence of any form of guidance from a mentor, the interactions, shown in Text 3, reveal the students were unable to begin the task of drawing the demand and supply diagram.

Text 4: explaining the model - we have to ask why

Text 4 shows the students abandoning their attempts to draw the diagram and instead beginning to negotiate the meaning of the model.

While Cin’s question, message 119, *why [do] they(=the government) want parallel importing?* was assumed background knowledge, it represents a significant juncture in the students’ discussion. It is here that they recognised the need to probe the essential meaning of the model in terms of any rationale for its purpose and effect, rather than perfunctorily drawing the diagram.

Their collaboration is reflected in the depth of the RU structure. The depth of the structure demonstrates the intertwined relationship between the two discourses,

turn	mess	interact.	[following economic lecturer's explanation to another group]	REGULATIVE	
73	104	Cin	<div style="border: 1px solid black; padding: 5px;"> <p><i>[do] we need to understand that?</i></p> <p><i>don't need to mention</i></p> <p><i>no need to mention</i></p> <p><i>== not in the question</i></p> </div>	Avocation	
74	105	Li			
75	106	Tiff			
	107				
76	108	Cin	<div style="border: 1px solid black; padding: 5px;"> <p><i>so we just start from the thirty from the thirty price</i></p> <p><i>from the price thirty dollars</i></p> </div>	INSTRUCTIONAL Reflection	
77	109	Li			
	110		<div style="border: 1px solid black; padding: 5px;"> <p><i>and quantity traded [is] hundred thousand</i></p> </div>	Generalisation	
78	111	Cin	<div style="border: 1px solid black; padding: 5px;"> <p><i>yah just put the parallel importing line</i></p> <p><i>so without this P right?</i></p> <p><i>P1 and S1</i></p> <p><i>no no no need</i></p> <p><i>no no ah</i></p> <p><i>(pause)</i></p> <p><i>we have to ask why</i></p> <p><i>why what?</i></p> <p><i>why</i></p> </div>	Action	
79	112	Tiff			
	113				
80	114	Cin			
81	115	Li			
82	116	Cin			
83	117	Li			
84	118	Tiff			
85	119	Cin	<div style="border: 1px solid black; padding: 5px;"> <p><i>why why they want parallel importing I mean</i></p> </div>	Account	
86	120	Tiff		<div style="border: 1px solid black; padding: 5px;"> <p><i>what do you mean by 'why'?</i></p> </div>	Commentary
87	121	Cin			
	[gloss]:				
88	122	See			
89	123	Cin			
	124		<div style="border: 1px solid black; padding: 5px;"> <p><i>why does the Government apply parallel importing?</i></p> <p><i>on the CD?</i></p> <p><i>ah</i></p> </div>	Generalisation	
90	125	Tiff			
91	126	Cin			
92	127	See			
93	128	Tiff			
94	129	students	<div style="border: 1px solid black; padding: 5px;"> <p><i>why one of the main thing is to protect ==</i></p> <p><i>local business</i></p> <p><i>== local business</i></p> <p><i>yeah yes yes yes</i></p> </div>	INSTRUCTIONAL	
95	130	See	<div style="border: 1px solid black; padding: 5px;"> <p><i>everyone knows that</i></p> </div>	Generalisation	

extract from Text 4

The extract begins with a question posed by Cin, message 104, *[do] we need to understand that?* which sought to confirm whether the lecturer's explanation to a neighbouring group was relevant, or otherwise. Li and Tiff dismiss the need to mention the information in the Avocation RU. This interaction, messages 104 – 107, may be claimed to constitute the regulative discourse. The accuracy or otherwise of the claim remains debatable and illustrates the difficulties in recognising the regulative discourse in this data. This interaction is obviously not communicating content information. Therefore, by default, it could be argued that the students are concerned with regulating how they needed to proceed with their task. On this basis, it is suggested that this constitutes the regulative discourse.

The transition between the suggested regulative discourse and the instructional discourse occurs with Cin's statement, message 108, *so we just start from the thirty price.* This statement is akin to Christie's (1998:160) claim that the regulative discourse projects the instructional discourse, eg,

you'll be making an exact replica of a catapult.

regulative discourse	instructional discourse
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It could be said then that, the regulative and the instructional discourse, as in Cloran's (2006 draft:10) findings, are intimately intertwined here,

[Avocation[Reflection][Generalisation][Action][Account[Commentary][Generalisation]]]][Generalisation]

regulat.	instructional	instruct.
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RU Avocation forms the matrix RU for both the regulative discourse and the instructional discourse, with the exception of See's final evaluative statement, message 130, *everyone knows that.* The embedded RUs progress from Reflection and Action, expressing the drawing of the diagram, to RUs Account and Generalisation, which probe the reasons for the government's imposition of parallel importing. The distinction between Avocation and Commentary lies in the high levels of obligation expressed in

RU Avocation *need to, have to, must*. Hence, the important role of RU Avocation in the construal of the regulative discourse.

The relations between the embedded RUs and between the two discourses are determined by patterns of thematic progression. Any sense of ‘intertwining’ between the regulative and instructional discourse in the students’ data occurs by thematic progression between textual Themes: i. conjunctions *so*, message 108, in RU Reflection and *and*, message 110, in the first RU Generalisation; and, ii. the continuative *yah*, message 111, in RU Action. Another thematic pattern is expressed by interpersonal Themes: *why*, message 119, in RU Account, *what*, message 120, in RU Commentary, and *why*, message 124, in RU Generalisation.

The final RU Generalisation, message 130, shows See’s reflection on the students’ collective interpretation *everyone knows that*. gloss: *we all agree that is the reason*. This RU is not considered to be embedded as it does not seem to serve any direct function within the matrix RU Avocation or with the embedded RUs. Rather, it is considered to be in an expanded relationship with the preceding RUs. Linguistically, the non-thematic cohesion supports the analysis; *that* refers anaphorically to *to protect local business* in the Rhemes of messages 127 and 128.

In terms of instructional content in this students’ discussion, it needs to be acknowledged that much of the students’ negotiations consisted of the repetition of the same question *why does the government apply parallel importing?* This question was repeated until a satisfactory reason was offered and evaluated as valid by See. Any evaluation affirming a colleague’s interpretation is unusual in this data. The interactions, particularly between See and the women students, is often subtly negative and censorious. It can be surmised that the students’ struggles to understand parallel importing resulted in a degree of interpersonal tension. In fact, the students only satisfactorily responded with accurate interpretations to their questions on two occasions. These were in response to the request for the meaning of parallel importing in Text 2, message 21, *what’s parallel importing* and to this question regarding the reasons for applying parallel importing in Text 4.

Text 4: engaging the economics lecturer as students encounter difficulties explaining the model

The discussion below constitutes the latter part of Text 4. Here the students' interactions change to an instructional – regulative iterative sequence. This occurs as the students encounter difficulties in finding an adequate explanation in response to Tiff's next question, message 149, *but how [do] they(=the government) protect [the CD industry]?* The question seeks to determine the method by which parallel importing protects the local industry,

turn	mess	interact.			
				INSTRUCTIONAL	
109	149	Tiff	<div style="border: 1px solid black; padding: 5px;"> <p><i>but how they protect?</i></p> <p><i>how they protect?</i></p> <p><i>cause like I () producers right is like they produce I mean they take the I mean ah</i></p> <p><i>the copyright</i></p> <p><i>the copyright</i></p> <p><i>and (they) produce here you know</i></p> <p><i>(they do) not import</i></p> <p><i>not import is to produce here</i></p> </div>	Generalisation	
110	150	See			
111	151	Li			
112	152	Cin			
113	153	Li			
	154				
114	155	Cin			
115	156	Li			
116	157	See			Account
	158			<i>therefore um it's produce(d) here</i>	
			<i>then ahm</i>		
				REGULATIVE	
117	159	Li	<div style="border: 1px solid black; padding: 5px;"> <p><i>no this ah ah question I'm not ask(ing) you</i></p> <p><i>I('m) ask(ing) myself</i></p> <p>[sts laugh]</p> </div>	Commentary	
	160				
				INSTRUCTIONAL	
118	161	Cin	<div style="border: 1px solid black; padding: 5px;"> <p><i>that's that's that's the local produce right?</i></p> <p><i>OK?</i></p> <p><i>()</i></p> </div>	Account	
118	162				
119	163	Tiff		<div style="border: 1px solid black; padding: 5px;"> <p><i>but the government should know</i></p> </div>	Report
				?REGULATIVE	
119	164		<div style="border: 1px solid black; padding: 5px;"> <p><i>we have to have [eco lecturer] for this</i></p> <p><i>ah yes</i></p> </div>	Avocation	
120	165	Li			
				INSTRUCTIONAL	
121	166	Cin	<div style="border: 1px solid black; padding: 5px;"> <p><i>put on parallel importing</i></p> </div>	Action	
				?	
122	167	Tiff	<div style="border: 1px solid black; padding: 5px;"> <p><i>she's coming</i></p> <p><i>yeah</i></p> </div>	Commentary	
123	168	See			

extract from Text 4

Although the students encountered difficulties here, the use of RU Generalisation, messages 149 – 156, embedded in RU Account, indicates an increasing capacity to collaboratively explain how protection may occur, *producers take the copyright and produce here*, albeit tentatively. RU Generalisation illustrates an example of the students' highly collaborative negotiations as Li and Cin build their response lexical item by lexical item.

Li's retort in RU Commentary, messages 159-160, *I'm not ask(ing) you* is directed at See. This is labelled as the regulative discourse. It seems Li is enforcing her own moral order in her interactions and further reflects the tensions between See and the women students. The exchange illustrates the Tenor relations referred to earlier. In this case, the apparent tension was between Li and See who were linguistically and academically more capable than most of the students in this class. They frequently vied for authority throughout the interactions.

Despite efforts to explain the rationale for parallel importing, the students' difficulties are again apparent. These difficulties are reflected in the mostly unconnected RUs and the lack of any relationship between the regulation of their task and the instructional content,

[[Generalisation] Account] [Commentary] [Account [Report]] [Avocation] [Action] [Commentary]

instructional	regul.	instructional	?regul	ins	?
---------------	--------	---------------	--------	-----	---

Tiff, who originally asked the question concerning how parallel importing protects the local industry, suggests that they need the economics lecturer's help, expressed in RU Avocation, message 164, *we have to have [the economics lecturer] for this*. The lecturer then joined this group for the first time. The lecturer's use of the instructional discourse will be examined in Section 2 following.

Summary

The concerns in Section 1 have addressed the question: in what ways was dialogic learning beneficial to peer mediation in this case study? The use of Rhetorical Unit analysis offered unique insights into the dynamic aspects of the students' negotiations. The relationship (or lack thereof) between RUs revealed the difficulties the students experienced as they struggled to undertake their assignment task. In particular, the analysis showed that the unrelated nature of the RUs indicates the lack of connection between the students' regulation of their assignment task and any understanding of the instructional content, specifically: i. how to proceed with the task of drawing the

demand and supply diagram, and ii. the relationship between the diagram and the economic model. Exceptions were seen in their collaborative efforts to define the model of parallel importing in Text 2 and identifying the purpose of parallel importing in Text 4.

While the data reveal the high degree of collaboration between the students, any sense of effective peer mediation throughout the students' interactions in Texts 1- 4 was not fully realised. It has been shown the students did not have an adequate understanding of the economic model and so struggled to undertake their assignment task. However, an important opportunity offered by this constructive approach to learning involved the students' attempts to begin to independently remediate their background knowledge. When these attempts faltered, they were then able to call on the lecturer for assistance.

It is the lecturer's interactions with the students and again the students' attempts at peer mentoring that will be the focus of the examination of the data in Section 2 following. The examination will consider the features which distinguish the instructional discourse used by the lecturer and the students.

Section 2

Examining the lecturer and student's use of the instructional discourse using Rhetorical Unit analysis

To reiterate, the instructional discourse in this investigation is operationalised as a discourse of competencies which refers to what meanings are being construed. In this data, the function of these competencies may be described as expanding upon instructional content in order to do the following: i. explain procedures involved in the draughting of the demand and supply diagram; ii. predict the consequences of the economic model; and, iii. provide an explanation of the consequences. The aim of the following discussion is to characterise what constitutes Bernstein's notions of the instructional discourse used by the lecturer and the students throughout their discussion.

The structure of instruction

Taking Cloran's (2006 draft:2) characterisation of the school instructional context as a beginning point, it is clear that the lecturer and students' use of the instructional discourse in the data is likely to have a structure potential of various functions as shown in Figure 7.1,

Orientation=(Check)(Repair)(Apprize)(Confirm)Re-orientation^Procedure =
 (^Practicum)^Exposition ^Thesis Argument(n)(Clarification)

(= indicates sub-elements of the adjacent superordinate term)

Figure 7.1 Generic Structure Potential of instructional discourse (after Cloran, 2006 draft:2)

The following discussion will first define and exemplify the functional elements and sub-elements of the instructional discourse. The exemplifications will take account of the mediation by: i. the lecturer as she responds to the students' questions (Texts A – F); and, ii. the students as they attempt to construe the instructional discourse in their negotiations.

For this, the categories and the relationship between Rhetorical Units will be used to show how coherently, or otherwise, the lecturer and students are able to construe the various functions of the instructional discourse. Cloran identifies these functions as:

Orientation

The initial element of the structure potential – *Orientation* – is identified as the point from which a discussion proceeds. Functional categories identified in the lecturer's data include *Orientation=(Check)(Repair)*; the functional categories identified in the students' data include *Orientation=(Apprize)(Confirm)*.

i. the lecturer***Orientation=(Check)(Repair)***

The lecturer's construal of the element *Orientation* occurs either when she checks (*Check*) which part of the assignment the students are undertaking, or when she repairs (*Repair*) her explanations, for example,

Orientation=(Check)

turn mess Interactant

135	182	Eco lecturer	<i>which one are you doing?</i>	Commentary
136	183	Li	<i>this one</i>	

extract from Text A

Orientation=(Repair)

turn mess interactant

142	207	Eco lecturer	<i>let me start again</i>	Action
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extract from Text B

Orientation=(Repair)

turn mess interactant

153	250	Eco lecturer	<i>no start again</i>	Action
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extract from Text C

ii. the students***Orientation=(Apprize)(Confirm)***

It is the students' questions which determine the beginning point in each of the texts making up the tutorial data. Hence, the students' questions frequently construe the initial element *Orientation* throughout the tutorial data. As discussed in Chapter 5, the students' questions choosing the [apprize] option are critical in their attempts to define, explain and illustrate the economic model. Their questions choosing the [confirm] option clarify the accuracy or otherwise of their interpretations. The element *Orientation* in relation to the students' data can be further categorised as *Orientation=(Apprize)* and *Orientation=(Confirm)*, for example,

Orientation=(Apprize)

turn mess interactant

254	433	Li	we want to ask	Commentary
	434		why we know the world price [is] lower than the equilibrium price?	Reflection

extract from Text D

Orientation=(Confirm)

turn mess interactant

136	184	Li	you know parallel importing?	Reflection
137	185	Eco lecturer	yes	
138	186	Li	is it become a market?	Account

extract from Text A

The macro-elements of the tutorial discussion are often iterations of elements and sub-elements. It is therefore possible, drawing on Cloran's (draft:8) findings, to view many of the students' questions throughout the discussion as the element *Re-orientation*.

Procedure = (^Practicum)

In Cloran's (2006 draft:7-8) data involving primary and junior high school students, *Practicum*, was found to typically follow *Exposition*,

This element involves the application of the introduced concepts in the form of some practical activity which may or may not involve a pen-and-paper task ... Through the element *Practicum* the teacher provides the students with the opportunity to practice the skills being developed or to record in summary form the information received.

The data here again reveal different findings. The data indicate a different order of elements and functions. The lecturer begins her explanations with *Practicum* as she instructs the students in the drawing of the diagram.

i. the lecturer

Within *Procedure* the lecturer guides the students' draughting of the demand and supply diagram within the sub-element *Practicum*. It is this sub-element which was the subject of the earlier discussion regarding the difficulties inherent in identifying the features of the regulative discourse in a university context. In Text A below, note that *Practicum* begins with the RU Avocation, message 187, and Action, message 190. The Action RU, as Cloran predicts, typically construes regulative discourse. Whether such directives are the lecturer's regulative goals akin to Christie's findings, or procedural as a sub-element in instructional discourse (hence an aspect of 'competences') remains debatable. It is interpreted here to be a sub-element of the instructional discourse,

turn mess interact.

136	184	Li	<i>you know parallel importing?</i>	Reflection
137	185	Eco lecturer	<i>yes</i>	
138	186	Li	<i>[does] is it become a market?</i>	Account
139	187	Eco lecturer	<i>yes but we've still got to go off from here</i>	Avocation
	188		<i>we've still got to assume perfectly competitive market structures</i>	
	189		<i>so we're still using demand and supply curves</i>	Commentary
	190		<i>so what I said [you] start off at thirty dollars with your demand curve</i>	Action
	191		<i>your flat supply curve</i>	
	192		<i>then to say well we'll allow</i>	Prediction
139	193		<i>when we extend this</i>	
	194		<i>we have to include an out cover (?) policy</i>	Avocation
	195		<i>OK so you've got to then extend it</i>	
	196		<i>so you've got to put in a world price which is</i>	
140	197	Li	<i>world price?</i>	
141	198	See	<i>world world</i>	
142	199	Eco lecturer	<i>world price here yes right</i>	

extract Text A

A further example of *Procedure = (^Practicum)* is evident in the extract from Text B below. Here, the lecturer again instructs the students in the steps to follow for constructing the diagram. Linguistically, the analysis of the text as a procedure is justified by the sequential topical Themes *first of all ... and ... then ...*

turn	mess	interactant		
142	207	Eco lecturer	<i>let me start again</i>	
142	208		<i>first of all you might start here at equilibrium</i>	Conjecture
	209		<i>and say add on foreign trade</i>	Action
	210		<i>push the price to whatever the world price is</i>	
143	211	Li	<i>yes yes</i>	
144	212	students	<i>ahha</i>	
145	213	Eco lecturer	<i>then if you bring parallel importing into it</i>	Account
	214		<i>it pushes the price back up</i>	
146	215	students	<i>hmm</i>	
147	216	Eco lecturer	<i>toward equilibrium you see</i>	
148	217	students	<i>ooh</i>	

extract from Text B

Relating *Practicum* to *Exposition*

i. the lecturer

It may be argued that if the order of the functional elements in the lecturer's explanations followed a more conventional structure, ie, *Exposition* ^ *Practicum*, the students would have gained a clearer understanding of the relationship between the theory, model and the symbolic meaning of the diagram. Grammatically, in terms of information distribution, *Exposition* would have announced the Given, as in Cloran's (2006 draft: 3) findings. The *Practicum* would have begun the New. In other words, having heard explanations of the economic theory and model as Given information, students may then have been able to relate explanations of the model to the diagram. Instead, it seems the deductive reasoning construed by the lecturer means the diagram is the Given information from which the theory and model needed to be derived.

ii. the students

In relation to the students' attempts to draught the demand and supply diagram, *Procedure=(^Practicum)* presents the students with considerable difficulties, as shown below in the excerpt from Text 3. Their difficulties are evident in their unfinished turns and message fragments,

turn	mess	interact.		
58	74	Li	<i>you draw the the once</i>	?REGULATIVE
59	75	Tiff	<i>hey do we need to == er</i>	
60	76	Li	<i>== no no no shift in the [laughs] no shift!</i>	?INSTRUCTIONAL
61	77	See	<i>supply ah</i>	
				INSTRUCTIONAL
62	78	Cin	<i>parallel importing is here</i>	Observation
	79		<i>so</i>	
			<i>()</i>	INSTRUCTIONAL
62	80		<i>do do we write dollar?</i>	Reflection
	81		<i>to Q D</i>	
63	82	Tiff	<i>yah</i>	
64	83	Cin	<i>which one?</i>	
			<i>()</i>	
	84		<i>parallel importing</i>	
			<i>()</i>	INSTRUCTIONAL
65	85	See	<i>straight line straight line ah</i>	
	86		<i>it's so cute eh</i>	Commentary
66	87	Tiff	<i>yes it's supposed to be flat</i>	
66	88		<i>alright?</i>	
67	89	See	<i>why (is it) flat?</i>	
68	90	Tiff	<i>because something er</i>	
	91		<i>this one's flat</i>	Observation
			<i>[pause]</i>	
69	92	See	<i>ahahaha but it's still very cute</i>	Commentary
			<i>[students laugh]</i>	

extract from Text 3

Having encountered considerable difficulties, as noted previously, the students then abandoned their attempts to draw the diagram. It is apparent the students were not able to realise any relationship between *Practicum* ^ *Exposition*. Instead, they began to remediate their understanding of the purpose and effect of the economic model.

***Exposition* ^ *Thesis Argument* (n)**

The element *Exposition*, Cloran (draft) explains, has two sub-elements, *Thesis* and *Argument*. The central concept is expressed in the *Thesis* and then explained in the *Argument(s)*. The explanatory arguments in support of the *Thesis*, identified by Cloran, are of three types: i. definitional, ii. exemplificatory, and iii. causal. Within definitional arguments a concept may be defined in terms of: a. its use or function; b. its inherent attributes; and, c. its meaning or interpretation. Exemplificatory arguments provide an illustrative example of the general concept. Cloran (2006 draft: 4) explains that causal arguments are the reasons provided for the state of affairs presented in the *Thesis*. The element *causal* in economics discourse has been identified in this data as reasoning which is largely *predictive*. The sub-element *Argument – causal* and predictive reasoning in the tutorial interactions will be the subject of the discussion in Chapter 8.

Exposition* ^ *Thesis Argument – definitional

i. the lecturer

The sub-element of *Exposition*, *Thesis Argument – definitional* construed by the lecturer, is illustrated in the following extract from Text A,

turn	mess	interact.		
142	200	Eco lecturer	and then what parallel importing does	Thesis Principle
	201		if the world price is lower	Reflection
	202		we've got this shortage	Argument - definitional
	203		it's a shortage of product	Account
	204		and that's imports	Generalisation

extract Text A

Here, the lecturer's construal of *Thesis* and *Argument* expressed in RU Principle - with the embedded RUs Reflection, Account to Generalisation - reflect the written discourse of economics. This structure illustrates how the definition of parallel importing, construed by the interlocking of technical terms, as Halliday (1993:73) has argued, could present the students with a considerable intellectual task. This task involves two stages: i. the introduction of taken-for-granted information into the argument by the lecturer which, in turn, is used as a point of departure for the next step in the argument; and, ii. the need for the students to insert the causal connectives between claims and then draw highly complex implications and conclusions from them.

Here, RU Principle expresses a conditional syllogism, messages 201-202, *If the world price is lower we've got this shortage* and a definition, messages 203-204, *it's a shortage of produce and that's imports*. Without the opportunity to reflect, check, or consider the meaning of the definition, as would be possible with a written text, the students needed to comprehend the definition instantaneously. The students' subsequent questions posed to the lecturer and in their own interactions indicate their comprehension of the definition was limited.

The lecturer's attempt to provide a theoretical rationale for drawing the diagram, therefore, appears to stumble. Making clear the relationship between the practical activity, economic theory and the model was obviously problematic. It is perhaps for this reason that *we* and *you* play such an extensive interpersonal role even in the instructional discourse. This is evident in the repeated use of RU Reflection throughout the discussion. By drawing the students into the process, they become active participants in order to make explicit a shared understanding of the task and how it is informed by the theory. It can be also argued the reference to *we* and *you* appears to contribute to the lack of focus on experiential meaning.

The lecturer appears to abandon the sub-element *definitional* in her explanations. Instead, her explanations began to construe descriptive sequences which set out the predicted outcomes and effects of the model.

ii. the students

The construal of *Exposition - Thesis definitional* by the students occurs in response to Tiff's question *what's parallel importing?* in Text 2. The *Thesis – definitional* (without the sub-element *Argument*) is debated and negotiated by the students over 33 turns and 41 messages (for a full transcript see Appendix A). An extract from Text 2 is shown below,

turn	mess.	interact.		Orientation
16	21	Tiff	<i>what's parallel importing?</i>	Generalisation
17	22	See	<i>ah</i>	
18	23	Li	<i>it is ah the government</i>	Thesis
	24		<i>and</i>	- definitional
19	25	Cin	<i>restrict</i>	
20	26	Li	<i>not allow the</i>	
21	27	Tiff	<i>no no no produce brought from overseas</i>	
22	28	Li	<i>nah</i>	
23	29	Tiff	<i>right?</i>	
24	30	See	<i>ohhoho that's that's ah a part of it</i>	Account
	31		<i>actually it should be ah</i>	
25	32	Li	<i>repeat repeat</i>	Action
26	33	See	<i>actually OK nononot actually maybe a case</i>	
	34		<i>maybe um it should be um eh tax on um</i>	Report
27	35	Li	<i>not not tax (=it is not a tax)</i>	Generalisation
28	36	Cin	<i>not tax (=it is not a tax)</i>	
29	37	Li	<i>no tax (is) involved</i>	
30	38	Ken	<i>no tax (is) involved</i>	
31	39	See	<i>no tax (is) involved?</i>	
	40		<i>oh yah</i>	
32	41	Tiff	<i>tax is tariff</i>	
33	42	Ken	<i>is it?</i>	
34	43	Cin	<i>it's a ban</i>	
35	44	Tiff	<i>it's a rule</i>	
36	45	Cin	<i>ban</i>	
37	46	Tiff	<i>it's like a regulation</i>	
38	47	Cin	<i>[it's a] ban ban that limit the import</i>	
			[continued ...]	

extract from Text 2

The element *Thesis* here constitutes the matrix RU Generalisation. This is typical of Generalisation, as Cloran (2006 draft:5) explains, for the presentation of the central concept 'parallel importing' as a class-exhaustive entity.

The above characterisation of Text 2 functioning as a single *Thesis* is debatable. An alternative would be to consider that this segment functions as both *Thesis* and the element *Argument – definition*. For example, See’s statement, message 30, *that’s part of it* may be seen as establishing an *Argument*, literally. However, the argument See puts forward is rejected by the other students. The students’ construal of RUs Generalisation, Account and Report continues to realise a more accurate definition of parallel importing. On this basis, the first alternative given above is favoured.

Thesis Argument – exemplificatory

The function of the *Expository* sub-element *Argument – exemplificatory* is to make concrete a general or theoretical rule. It is typically realised, Cloran (2006 draft:6) explains, by RUs which are sensorily available, eg, Commentary or Observation.

i. the lecturer

As discussed previously, the relation between *a priori* economic theory, an esoteric model and concrete examples in economic discourse is not easily realised. Offering a congruent real-world example to exemplify economic theory obviously requires a substantial understanding and comprehension of the theory. Therefore, providing exemplifications of the theory and model dialogically was challenging for the lecturer, and even more challenging for the students.

In the extract from Text D below, the lecturer’s construal of *Thesis* and *Argument – exemplificatory* is in response to Li’s question *why [do] we know the world price [is] lower than the equilibrium price?*,

turn	mess	interactant		Orientation
254	433	Li	we want to ask	Commentary
254	434		why we know the world price [is] lower than the equilibrium price?	Reflection
Thesis				
255	435	Eco lecturer	what we're saying is that that's world price	Observation
	436		tha aa local price is set here the equilibrium thirty dollars by local demand and supply	
	437		whereas the world price is set by demand and supply in other countries	Account
257	438	Li	yah	
Argument - exemplificatory				
258	439	Eco lecturer	now say for example ah there's a lot better technology in other countries ==	Account
259	440	Li	== ah ah	
260	441	Eco lecturer	the supply curve ==	
261	442	Li	== ooh	
262	443		is further out to the right	Observation
	444		so the price is lower	
262	445		so it's just whatever demand and supply conditions [are] overseas	Conjecture
	446		that the firms might be more efficient ==	
263	447	Li	== ooh	
264	448	Eco lecturer	at producing them	
	449		and have better technology to produce them ==	
265	450	Li	== aah	
266	451	Eco lecturer	or whatever	
	452		so they have a different equilibrium price	Account

extract from Text D

The lecturer's response, in Text D, messages 435 – 437, involves the enunciation of a universal aspect of demand and supply theory *what we're saying is that's world price, the world price is set here (at) the equilibrium thirty dollars by local demand and supply, whereas the world price is set by demand and supply in other countries*. She then exemplifies this aspect of the theory by a specific instantiation of its application, messages 439 – 452, in RUs Account, Observation and Conjecture. The exemplification is explicitly signalled in message 439 which begins *now for example there's a lot better technology in other countries ...*

In Text F shown below, the lecturer attempts to provide a more congruent extended *Argument – exemplificatory* in response to Li’s question, message 488, *the parallel importing price is set by the government?* (not shown). Despite the construal of more congruent central entities, *we, you, ten, seventy, imports*, the *exemplificatory* is hypothetical, expressed in RUs Conjecture – Reflection – Commentary – Account,

turn	mess	interactant		Thesis
299	514	Eco lecturer	<i>there's there's the equilibrium price of thirty</i>	Observation
	515	Eco lecturer	<i>this is say I don't know um twenty = dollars</i>	Argument - exemplific. Conjecture
300	516	Li	<i>= twenty yes</i>	
301	517	Tiff	<i>= twenty</i>	
302	518	Eco lecturer	<i>OK</i>	
	519		<i>now ah</i>	
302	520		<i>and at twenty dollars that would be the demand</i>	Conjecture
	521		<i>and that would be the supply</i>	
	522		<i>so we would have that many imports coming in</i>	
303	523	Li	<i>OK</i>	
304	524	Tiff	<i>mm</i>	
305	525	Eco lecturer	<i>then the government says right we're going to say you're not allowed to import this many</i>	Reflection
	526		<i>say that was um I don't know eighty yeah sixty</i>	Conjecture
	527		<i>so we had twenty twenty thousand</i>	
	528		<i>or whatever it happens imports</i>	
	529		<i>so you're not allowed to import that many</i>	Reflection
	530		<i>you're only allowed to import ten</i>	
306	531	Li	<i>OK</i>	
307	532	Eco lecturer	<i>OK so what we've now got is a shortage here of five and a shortage here of five</i>	Commentary
	533		<i>or whatever it happens to be</i>	
	534		<i>so now we've got sixty</i>	
	535		<i>(which) are produced locally</i>	
	536		<i>ten are allowed to be imported</i>	Account
	537		<i>so that's seventy</i>	Commentary
	538		<i>but we have eighty =</i>	
308	539	Li	<i>= ooh yes</i>	

extract from Text F

The exemplification in Text F begins with RU Conjecture, messages 515 – 539, *this is say I don't know um twenty == dollars...* . It is then briefly made more concrete and less hypothetical in the two instances of RU Reflection, message 525, *you're not allowed to import this many* and, message 529, *so you're not allowed to import that many* - albeit the reference *you* is to second order members of the economic community.

The lecturer then shifts to more concurrent examples in RU Commentary, messages 532 – 535, *OK so what we've now got is a shortage here of five and a shortage here of five...* and 537 – 539, *so that's seventy but we have eighty ...* . While the central entity interactant *we* is again construed as a second order member of the economic community, they are, at least perceptually, engaged in an activity at the time of speaking.

ii. the students

For the students, their difficulty in comprehending the theory and model is further evidenced by their inability to apply or exemplify in any way the economic theory, except with humour. Their one attempt to exemplify the theory occurred at the conclusion of their discussion (Text 6) - at See's expense. Li teasingly claimed she knew an example of something having zero demand, that is, See, the only male student in the group,

turn	mess	interactant		Rhetorical Unit
411	709	Li	<i>I want to say there's er one thing there's a zero demand</i>	Account
	710	Li		
	711	Li	<i>[do] you know what? what?</i>	Reflection
412	712	See		
413	713	Li	<i>[do you] know who has that? See! [sts laugh]</i>	Reflection
	714	Li		

[inaudible repartee]

extract from Text 6

Clarification

The final functional element in the instructional discourse identified by Cloran (2006 draft:6-7) is *Clarification*. The element *Clarification*, according to Cloran (2006 draft:7), offers teachers opportunities to discern gaps in the presentation of information and to remedy any misunderstandings. The teacher may invite the students to ask questions in order to clarify the information provided. The element also offers students opportunities to resolve any problems in their comprehension of the instructional content. In Cloran's data, *Clarification* is constituted by RUs Action, Reflection, Commentary and Observation. These RUs all involve central entities which are in the immediate material environment.

It has been argued here that it is the students' questions which provided the lecturer with the implicit opportunities to gauge their comprehension and their confusions. Rather than any purposeful attempts to clarify information, the lecturer asked only 7 questions compared to the students' 80 questions. Thus the kinds of clarification which occur in this data are quite different from common experiences in more junior classrooms. The explicit clarification of information throughout the tutorial was undertaken by the students. Indeed, as discussed, it was the extensive number of questions which offered the critical opportunities for the students to explicitly clarify their understanding. For the lecturer, their questions provided an implicit gauge of their comprehension. From these, the lecturer was able to react to their confusion, rather than, as Vygotsky (1986:188) advocated, offering guidance which leads to development. Hence, in this data clarification results in a reactive kind of guidance. Indeed, the scenario is suggestive, in a Piagetian sense, that the lecturer's role is one of a companion in the students' process of discovery.

i. the lecturer

The one explicit clarification of the students' understanding by the lecturer occurs when she perfunctorily asks the question *understand?* shown in Text C below, message 293,

turn mess interactant

169 293 Eco lecturer

understand?

Clarification

Commentary

from Text C

There was no pause following the question to provide students with an opportunity to respond.

Without the students' questions, it may be wondered what kind of mediation the lecturer could have provided the students; the only other form of feedback from the students was minimal, eg, *ahah* and *hmhm*. The students' interactions with the lecturer are constituted by: a. their questions; b. minimal feedback in response to her monologic explanations; and c. some limited examples of scaffolded responses (Text F). Indeed, much of the minimal feedback appears to have been quite deceptive. While seemingly expressing comprehension, it may be argued the minimal feedback was in deference to the lecturer and, thus, 'fudged' comprehension. The excerpt from Text B below shows examples of how the students possibly 'drove on' the lecturer's monologic explanations,

turn	mess	interactant		Rhetorical Unit
142	208	Eco lecturer	<i>first of all you might start here at equilibrium</i>	Conjecture
	209		<i>and say add on foreign trade</i>	Action
	210		<i>push the price to whatever the world price is</i>	
143	211	Li	<i>yes yes</i>	
144	212	students [collectively]	<i>ahha</i>	
145	213	Eco lecturer	<i>then if you bring parallel importing into it</i>	Account
	214		<i>it pushes the price back up</i>	
146	215	students [collectively]	<i>hmm</i>	
147	216	Eco lecturer	<i>toward equilibrium you see</i>	
148	217	students [collectively]	<i>ooh</i>	

extract from Text B

ii. the students

The element *Clarification* is evident in the students' 41 questions seeking the [confirm] option. The students sought clarification of information provided both by the lecturer, and from each other.

a. Clarification of the lecturer's instructional information

The following excerpts show examples of the students clarifying their interpretation of the instructional information provided by the lecturer. The RUs constituting the responses are again often quite different when compared to those identified by Cloran involving younger students. Rather than central entities in the immediate material environment, the central entities, as in the example from Text B below, message 229, refer to the symbolic representation of the model *QF to QD* expressed in RU Generalisation,

turn	mess	interactant		Clarification
152	226	Li	<i>is there still a little shortage?</i>	Observation
153	227	Eco lecturer	<i>yes there will still be a little shortage</i>	Prediction
	228		<i>in fact that's what happens</i>	Generalisation
	229		<i>when they say QF to QD is the amount of imports that come into the economy without any parallel importing</i>	
153	230		<i>that's just (a) free trade right?</i>	

excerpt from Text B

Even in the later more congruent explanations, the students' questions still sought clarification of abstract entities associated with the model, as shown in the excerpt below from Text F, message 488. Here, clarification is sought in relation to the inherent attributes of the central entity *the parallel importing price* expressed in RU Account,

turn	mess	interactant		Clarification
283	488	Li	<i>and the ban price and the ban price I mean the parallel importing price is set by the government?</i>	Account
	489		<i>or is it == ?</i>	
284	490	Eco lecturer	<i>== no no</i>	
	491		<i>it's ==</i>	
285	492	Li	<i>== 's</i>	
286	493	Eco lecturer	<i>not set by anybody ==</i>	
287	494	Li	<i>== it's er</i>	
288	495	Eco lecturer	<i>it's just it's set by the shortage</i>	

extract from F

b. Clarification sought from each other

The following example shows clarifications sought by Cin in relation to the diagram in Text 3, message 80,

turn	mess	interactant		Clarification
62	80	Cin	<i>do do we write dollar?</i>	Observation

extract from Text 3

This example of *Clarification* shows Tiff's enquiry, message 302, in Text 5 in relation to the model of parallel importing,

turn	mess	interactant		Clarification
176	302	Tiff	<i>the price is part of world price right?</i>	Account
	303		<i>it's...</i>	
177	304	Li	<i>no</i>	
178	305	See	<i>no</i>	

extract from Text 5

Summary

In this chapter, dialogic learning and the concept of semiotic mediation in this university context have been examined in considerable detail in terms of Bernstein's notions of pedagogic discourse. The chapter examined what happens when the complexities construed in the written discourse of economics are explained dialogically. The relation between the regulative and the instructional discourses provided the beginning point in the investigation. The challenge of distinguishing features of the regulative discourse in this university context was first discussed. Features of the lecturer's discourse which possibly constituted a specialised regulative discourse were examined, and while discounted as such, the challenge in some instances remains.

The study of the students' attempts to self-mediate and regulate their assignment task was undertaken in Section 1 using Cloran's analytical framework of Rhetorical Units. From this analysis, it was possible to determine that regulating the assignment task was

indeed problematic for the students. The students' difficulties were confirmed to be the drawing of the demand and supply diagram and expanding on the theory of demand and supply as exemplified in the model of parallel importing.

The study of the instructional discourse, undertaken in Section 2, was also made possible by Cloran's framework of Rhetorical Units, as well as the structure potential of various functions within the instructional discourse. The use of Rhetorical Units and structure potential have been interpreted, within Bernstein's theory, as providing evidence of the kinds of mediation taking place between the lecturer and students. The functional elements were defined and exemplified as they occurred throughout the discussion. Particular interest was taken in the elements *Exposition* ^ *Thesis* ^ *Argument* and the two types of *Argument*, *definitional* and *exemplificatory*. These were examined in the lecturer and students' instructional discourse in relation to the kinds of contingency and appropriation strategies used to convey and comprehend the meaning of economic phenomena.

It was shown that the lecturer was able to adjust her explanations and adjust her guidance as she gauged the students' difficulties expressed in their questions. It was argued that the students' questions played a significant role in explicitly clarifying their difficulties.

The findings discussed in this chapter are indeed different from those reported in the literature on dialogic learning in other educational sectors. The anticipated increments in the students' comprehension of demand and supply theory and its application to an economic model did not occur as anticipated in the aims of the Business Communication Program. By offering students opportunities for learning within a social constructivist framework, it was anticipated that students' comprehension would be enhanced in the ways suggested by advocates of dialogic learning. The findings point to the sources of the students' difficulties. As well as their somewhat impoverished language capabilities, it is revealed the students did not have the required background knowledge in the economic theory and had not adequately prepared for the tutorial assignment. The students' difficulties are suggestive of deficits in the curriculum. Although designed in consideration of the student cohort and their possible interest in music and CDs, the economic content did not take into account that the students were

not majoring in economics. The economics curriculum of the BCP, it seems, should have been more relevant to the students' future professional needs - as had occurred in the accounting module - and therefore not focussed so intently on the abstract principles of economic theory.

Chapter 8

Construing predictive reasoning dialogically

This chapter is concerned with the adjustments and shifts in the construal of predictive reasoning by the lecturer away from replications of written economic discourse to more congruent descriptions in response to the students' confusion. Indications are that the lecturer is reactive to the students' questions and confusion, rather than guiding their understanding, as would occur in a Vygotskian model of mediated learning. The students' responses to the lecturer's contingency strategies are also worthy of note, as they present interesting contrasts. On the one hand, the students show deference to the lecturer and her explanations and a need to resort to mimicry; on the other hand, it will be seen how the students demonstrate a determination and volition to uncover explicit reasons for the economic model.

The chapter will begin by acknowledging that scant attention has been given to the rhetorical semantic activities in reasoning within systemic functional linguistic studies or in educational linguistics more generally. The complex nature of economic discourse provides a unique opportunity to examine predictive causal reasoning in economics, and therefore, a deductivist model of reasoning. Aspects of the discourse will be described in relation to the historical debates among economists regarding the adequacy of causal explanations given for economic phenomena.

Linguistically, the examination will take account of 'causal' relations in the Rhetorical Units at the semantic level as they are able to provide theoretical explanations for *causal Argument* in Cloran's functional schema, and because of the prominence of causal reasoning in economic discourse. Hence, this chapter will extend the examination of *Exposition* ^ *causal Argument* and how these were construed dialogically by both lecturer and students. In preparation for the analysis of *causal Argument(s)* in the tutorial discussion, the investigation will begin by describing lexicogrammatical and logico-semantic relations of causal reasoning. The advantage of adopting this approach lies in the possibility of realising semantics via wording at the lexicogrammatical

stratum. The examination will provide a context for revisiting some of the data already presented, and will present further data to determine: i. the lecturer's construals of causal reasoning; ii. the students' ability to engage in the semantic process of reasoning; and, iii. any adjustments or shifts in the construal of causal reasoning as mediation strategies by both the lecturer and students.

The analysis of the tutorial data, then, is concerned with the pressure on students in university education to relate cause and effect or consequence with a theoretical entity and then to illustrate the relationship and outcomes symbolically. The analysis recognises that fostering capabilities to reason and to infer cause-effect relations are the most desired student and graduate attributes. The analysis is also intended to offer insights into the concerns expressed in the literature regarding the participation of second language international students in Australian higher education. These concerns frequently typecast second language international students as reluctant to develop their capabilities beyond recitation.

Extending the analysis of the structure of instruction: examining the element *causal* in explanatory *Argument*

Using again Cloran's (2006 draft:2) characterisation of the school instructional context as the beginning point in this discussion, the instructional discourse in this data was found to have a structure potential of various functions, shown in Figure 8.1,

<p>Orientation=(Check)(Repair)(Apprize)(Confirm)Re-orientation^Procedure = (^Practicum)^Exposition ^Thesis Argument(n)(Clarification)</p>
--

(= indicates sub-elements of the adjacent superordinate term)

Figure 8.1 Generic Structure Potential of instructional discourse (after Cloran, 2006 draft:2)

The discussion here will further examine the elements *Exposition*, *Thesis* and *Argument*. As noted, the central concept is expressed in the *Thesis* and explained in the *Argument(s)*. The discussion extends the focus of the explanatory arguments in support of the *Thesis*, in particular, *causal Argument*.

Section 1

Causal Reasoning in academic discourse

What makes causal reasoning logical, from a logical-philosophical viewpoint, is that it follows certain rhetorical structure patterns. According to this view, causal reasoning lays out an argument in a particular way often in the form of syllogistic reasoning. The Cambridge Encyclopaedia (2nd ed.) explains syllogisms as a deductive argument containing two premises and a conclusion. Two kinds of syllogisms are categorical syllogisms and conditional syllogisms. Categorical syllogisms contain a major premise as a general statement, a minor premise which is a specific statement and a conclusion based on the premises. A conditional syllogism is construed by the conditional *if... then...* structure. Deductive reasoning and syllogisms are discussed extensively in the logico-philosophical literature; however, as Hasan (1992a:278) has found, there is little indication of the part played by language in reasoning.

Within a more immanent interpretation of meaning, as in systemic functional linguistics (sfl), scant attention has been given to rhetorical semantic activities involved in reasoning, ie, predictions, conjectures, consequences, causality and descriptions which combine to construct a logical argument. Instead, a deal of work in educational linguistics in the past two decades has focussed on the complex patterns of larger academic texts including research reports, scientific research articles and academic essays.

The relevant investigations in SFL have examined deductive reasoning and propositional logic in written scientific discourse. It has been found that propositional logic, ie, reasoning about relations of cause, conditionality etc is expressed most commonly in scientific discourse as implication sequences (Wignell et al., 1989). An implication sequence implies that each stage in the sequence is dependent on what has gone before, “Things happen to other things in particular environments over time which then cause other things to be or to happen”. Previously, the process of explaining in economics was described as occurring by way of implication sequences.

The structures of reasoning, according to Lemke (1990:122), can be learned by anyone. This can be achieved by learning to identify the obligatory parts of an argument, what the function of each part is in the whole, what order the parts come in, how the meaning of each part relates to the others. Hence, this study attempts to determine if, in fact, the appropriation of causal reasoning in academic discourses such as economics is a matter of learning obligatory elements and their functions for all students.

Questions of interest then in this chapter are whether the ‘events’ in the possible implication sequences in the tutorial discussion have more definable rhetorical functions in the process of causal reasoning. How do these rhetorical functions contribute to the kinds of causal reasoning in both the explanations offered by the lecturer and by the students themselves? How are these functions construed dialogically? Do the elements in reasoning create a stable order, eg, by syllogistic constructions, as suggested from a logical-philosophical orientation, or are they interspersed, as suggested by Hasan (1992a:284)? What adjustments are made in the way causal reasoning is construed in response to the students’ questions?

The analysis of causal reasoning will attempt to demonstrate how the interactants drew on components of the ideational metafunction and types of rhetorical activities to express causal relations. The investigation will aim to show how the lecturer shifted between the grammatically metaphorical language of causal reasoning to more congruent explanations. It is intended that the analysis of types of RUs will reveal these shifts; as well as, how the relation between RUs reveal the coherence of *causal Argument(s)*, or otherwise. This latter aspect of RU analysis is particularly useful in determining how the students cope with causal explanations.

Hypothetical predictive reasoning in written economic discourse

A significant focus of economics as a predictive science, Friedman (1953:4 in Helm, 1994) contends, is the explanatory importance of causality, “an adequate knowledge of the links between economic events and causes cannot be taken for granted”. As an *a priori* science, the deductivist model of reasoning in economics, however, has come under scrutiny. The concern is with the adequacy or otherwise of causal explanations given for the hypothetical predictions, consequences and outcomes of economic models.

Indeed, the debate among economists regarding the divide between economic methodologies and empirical evidence, ie, between theoretical and hypothetical predictions and the complexities of human behaviour, date back to the early nineteenth century and John Stuart Mill (Hausman, 2003:8). The essence of the debate is encapsulated in Marshall's (1895:91) assertion that economics differs from the physical sciences. The differences lie in the fact that the simplicity and precision of the 'hard sciences' cannot be captured in the same way in economics, due to the complex nature of human behaviour. The complexities of human behaviour, he argues, limit the range of deduction in economics,

...long chains of deductive reasoning are directly applicable only to the occurrences of the laboratory. By themselves they are seldom a sufficient guide for dealing with the heterogeneous materials and the complex and uncertain combination of the forces of the real world. (pp. 94-95)

In order to account for 'complex forces', predictions, outcomes and causal factors, economic models are considered to be true only *ceteris paribus*, ie, they are only true if there are no interferences or disturbing causes. As a result, economic models both oversimplify and idealise economic phenomena as abstract generalisations and idealisations, according to Hausman, (2003:7). Only a small number of causal factors, or indeed, reasons, are ever considered. Any causal explanations that are provided in economics, Hausman (p.10) contends, typically invoke theoretical entities. These entities appear to exist only in the minds and in the discourse of economists.

Insofar as economists can never provide a complete list of the causes or reasons for any event, a common argument put forward is that if no genuine attempt is made to explain economic phenomena then construals of the theory will remain unsatisfactory (Runde, 1998:160). These arguments call for a greater sense of scientific realism in economics. In such views, economic phenomena should be explained more fully by giving explicit information about the actual mechanisms that give rise to them. In advocating more robust causal explanations, Runde (1998:160-161) has identified a series of problems in current economic methodology. They include the following: i. explanatory information uses generalisations which fail to explain specific instances; ii. the factors invoked as possible causes are idealisations; and, iii. the explanations are not satisfactory in the

sense that the information does not take into account the background knowledge of the audience.

The reason economic explanations remain unsatisfactory, Runde (1998:160-161) continues, is because they are 'too remote' or 'too small' to provide adequate causes of the event concerned. A cause is 'too remote' if: i. there are unspecified links in the causal chain between the cause cited and the event of interest; and, ii. adequate knowledge of these links is taken for granted. A cause is 'too small' if: i. it is only one of a composite of causes identified that led to the event of interest; and, ii. similarly, adequate knowledge of this composite is taken for granted.

An intriguing aspect of the debate concerning adequate causal explanation in economics is provided by Hausman (2003:7). The unwillingness on the part of economists to examine causes of economic phenomena, he claims, is the result of a trend dating back to the 1930s and 1940s. During this period, the concern of economists was determination rather than causes,

In the anti-metaphysical intellectual environment of the 1930s and 1940s ... any mention of causation became highly suspicious, and economists commonly pretended to avoid causal concepts. The consequence was that they ceased to reflect carefully on the causal concepts that they continued implicitly to invoke.

Econometrics more recently has attempted to identify the separate influences that simultaneously influence economic behaviour. However, the difficulty of testing models remains; the theory and imaginary model remain as primary sources to explain economic phenomena and may account for the student difficulties reported in the study of economics.

Academic colleagues in the discipline of economics may well argue these comments and debates relate to the discourse of professional economists. The goals of academic economics, they may contend, take account of students' needs in learning the discipline. This claim would concur with Bernstein's (2000:33) argument that as professional discourses are recontextualised into educational contexts, the new discourse selectively appropriates and relates the professional discourses to constitute its own order.

However, concerns about academic economics have been expressed by educators in the international literature of economics education. Indeed, the difficulties for many students with the discourse of economics, acknowledged by academic economists, is due to the arcane nature of the economic content in the curriculum. As Frank (2002:460) claims, in relation to introductory economics courses,

...(the courses) are typically abrim with technical details, taught from encyclopaedic texts whose authors feel obliged to discuss not only the most simple and important economic ideas, but also every other concept that economists have written about. Yet many of these concepts are no more relevant for a student's first attempt to absorb the economic way of thinking than the pluperfect subjunctive tense is for a student's first attempt to learn another language.

Similarly, Knoedler and Underwood (2003) argue, undergraduate economics education continues to teach an economic mainstream paradigm that is not relevant to students who need to understand actual economic events in their own lives and livelihoods,

... economists not exclusively enamoured of the mainstream paradigm see the problem as more than the method of teaching. We argue here that continuing to teach the mainstream paradigm exclusively, while adding new technologies and pedagogies, will not change the declines that have come to alarm the profession. We ... also argue that economic educators should devote their efforts to making Principles of Economics a true general education by incorporating explanations of economic behaviour that go beyond those of the mainstream. Students will better develop and exercise their critical thinking skills in a principles course that utilises application of a multi-paradigmatic approach to afford them a more realistic view of the economy.

In fact, it will be seen that, linguistically, the manner of reasoning discussed in the mainstream economics literature and its inherent problems have close associations with the data in this study.

Expressing causality in economic discourse

How causal reasoning was construed in the spoken data of the tutorial discussion is examined in this section. The purpose of the examination is to identify the functions construed in the instructional discourse, as described by Cloran (2006 draft:2), in order to understand how arcane meanings, as suggested by Hausman among others, were mediated throughout the tutorial discussion. A central concept of the instructional content is expressed by the *Thesis* and then explained in the *Argument(s)*. The interest in this discussion is in the third kind of explanatory *Argument* supporting the *Thesis*, ie, *causal*.

Prior to the examination of the spoken data, the logico-semantic features of causal reasoning will be described.

Section 2

The logico-semantic relations of causal reasoning

This examination of causal reasoning in the tutorial discussion will take account of the grammatical features at: A. the logico-semantic level of Rhetorical Units; and, B. at the lexicogrammatical level of clause.

A. reasoning at the logico-semantic level of Rhetorical Unit

Rhetorical activities, Cloran (1995:372) points out, are an abstraction at the semantic stratum and, as such, are realised by lexicogrammatical phenomena. RU analysis, as discussed, primarily involves the identification of relations between the basic constituent of the text, ie, the message, and how these relations construct the units of rhetorical meaning in the text. For a set of messages to function as reasoning, as Hasan (1992a:276) explains, they need to possess the semantic attribute of texture. Reasoning messages will be cohesively linked to each other by textual devices such as cohesive reference, substitution and ellipsis as well as lexical connections across messages (see Chapter 6 *Relating Rhetorical Units*).

B. reasoning at the lexicogrammatical level of clause

Reasoning draws on components of the ideational metafunction: experiential and logical at the lexicogrammatical level of a clause (see Chapter 4 *Systemic functional linguistic theory: system and use – Ideational metafunction*). The logical metafunction of reasoning is most often examined lexicogrammatically as the linking of two clauses into a clause complex. Clauses may be linked by relations such as condition, conclusion, contingency, dependency, conjunction and disjunction (Hasan, 1992a:276). If the lexicogrammatical expression is overt, then the links may be an iterative structure of expansion (Halliday, 2004:363ff) *if ... then, because a (so) b, if (either) x or y (then) z*.

Two clauses in a clause complex can be independent and linked paratactically, as described in Chapter 4, ie, they have equal status grammatically, *we drew the wrong diagram, because we thought it was a different kind of diagram*. Or one clause can be constructed as dependent on the other and therefore linked hypotactically, eg, *when we drew the diagram, it was wrong*.

Manifestations for reasoning occurring in the lexicogrammar are set out in Table 8.1,

Realisation of Cause	Example from tutorial data
cohesive conjunction	<i>There is a shortage of CDs. <u>Therefore</u> the price of them will rise.</i>
clause complex	
hypotactic (finite)	<i>The price will rise <u>because</u> there's a shortage of CDs.</i>
(non-finite)	<i>The price rose, <u>through</u> there being a shortage.</i>
paratactic	<i>There is a shortage of CDs <u>so</u> the price will rise.</i>
Circumstance within clause	<i>The price of CDs rose <u>due to a shortage</u>.</i>
Attribute/Circ within clause	<i>The price rise was <u>from the shortage</u>.</i>
Process within clause	<i>The shortage <u>caused</u> the price rise.</i>

Table 8.1 Manifestations for reasoning occurring in the lexicogrammar

The sequences which constitute the *causal Arguments* in the tutorial discussion are realised primarily by the expansion of information, either hypotactically or paratactically, within clause complexes. The particular focus here will be on the

different ways finite clause complexes expand information by extension or enhancement throughout the explanations.

i. extension of meaning

In [extension] one clause expands another by: adding some new information, giving an exception to it, or offering an alternative (Halliday, 2004:378). Hence, the [extension] of information can involve addition ‘and’, eg, *most CDs are produced locally and some are imported* or addition with an adversative feature ‘but’, eg, *a tax and parallel importing does the same thing but for different reason*. Extension of information frequently construes a simple temporal sequence: *a happens, and /or / but x happens*. In the spoken data, sequences construed by the extension of information occurred most often toward the final phases of the tutorial discussion as the lecturer attempted to explain the economic model more congruently, eg, *as the price goes up, it brings more sellers into the market, and takes buyers out*.

Examples of extension of meaning in the spoken data are shown below. [Addition] includes [positive] *and* and [adversative] *but*,

[basic:extending:addition:positive]

turn	mess	interaractant		Rhetorical Unit
321	568	Eco lecturer	<div style="border: 1px solid black; padding: 5px;"> <i>local suppliers are prepared to s-sell == sixty five</i> <i>== sixty five</i> </div>	Account
322	569	Cin		
323	570	Eco lecturer	<div style="border: 1px solid black; padding: 5px;"> <i>and == ten is coming in from imports</i> <i>== ten from imports</i> <i>ooh yes</i> </div>	Commentary
324	571	Cin		
325	572	Li		

extract from Text F

[basic:extending:addition:adversative]

turn mess interact.			Rhetorical Unit
402 696 See		<i>nothing will have still (constant) demand unless ah even even even coffee</i>	Prediction
403 697 Li		<i>yes you know</i>	Reflection
		<i>[students laugh]</i>	
404 698 Cin		but but coffee	
405 699 Li		coffee have a constant demand	Generalisation

extract from Text 6

ii. enhancement of meaning

Clause complexes can also qualify information by a process of enhancement. In [enhancement], one clause enhances the meaning of another by qualifying it in a number of possible ways, including: manner, cause and condition (Halliday, 2004:410). A major type of [enhancement] examined in the tutorial data is [cause-conditional]. The distinctions within [cause-conditional] are [temporal], [condition], [reason], [purpose] and [result-consequence]. Examples occurring in the tutorial data include,

Some types of enhancement	Examples from the tutorial data
[temporal]	<i><u>when</u> you ban this parallel importing you cause a shortage of CDs</i>
[condition]	<i>if we had parallel importing <u>then</u> we would get imports QS to QD</i>
[reason/explicit]	<i>the price will go up <u>because</u> only that amount of imports can come in</i>
[reason/implicit]	<i>can someone please draw the diagram, I lost my diagram</i>
[purpose]	<i>why restrict imports? <u>so</u> there may be a demand more than a supply</i>
[result-consequence/explicit]	<i>the local producers reduce the price to a lower price <u>so</u> they can still compete with those prices</i>
[result-consequence/implicit]	<i>the price is higher...the producer will produce more then it says the four effects, price goes up, quantity supplied rises ...</i>

Table 8.2 Types and examples of enhancement occurring in the tutorial data

Further examples of [enhancement] in the tutorial data are:

[enhancing:temporal]

The feature [temporal] in causal arguments in the lecturer's interactions frequently: a. expresses a reason; and, b. predicts a result-consequence, for example,

a. expressing a reason

turn	mess	interactant		Rhetorical Unit
163	272	Eco lecturer	<i>then when you ban this parallel importing you cause a shortage of CDs</i>	Reflection
	273			

extract from Text C

b. predicting a result-consequence

turn	mess	interactant		Rhetorical Unit
313	551	Eco lecturer	<i>the price will stop rising when you get here to say twenty seven dollars</i>	Prediction
	552			

extract from Text F

[enhancing:cause-conditional:condition]

This feature [condition] construes the more arcane hypothetical relations of cause-effect in written economic discourse. The feature occurs frequently throughout the tutorial discussion, particularly in the lecturer's earlier interactions (Texts A – C). This feature also occurs, to a limited extent, in the students' discussions as an example of their mimicry of the lecturer's explanations (Text 5). As the feature has the potential to render events hypothetical in meaning, it is therefore relevant to the RU Conjecture, for example,

turn	mess	interactant		Rhetorical Unit
160	266	See	<i>er do you mean that ah um by having parallel importing ah it's possible to push it to the equilibrium price?</i>	Commentary
161	267	Eco lecturer	<i>no no parallel um if we had parallel importing</i>	Conjecture
162	268	See	<i>hmm</i>	
163	269	Eco lecturer	<i>we would get imports QS to QD</i>	

extract from Text C

[enhancing:cause-conditional:reason]

The logical relation expressing explicit [reason] is used by the students in their questions choosing the [apprise] option *why?* The construal of explicit reasons occurs in the lecturer's earlier explanations (Text A – C), as shown below. In her later explanations, reasons give way to consequences,

turn	mess	interactant		Rhetorical Unit
169	287	Eco lecturer	<i>so a tax or a or a parallel importing ban does the same thing</i>	Generalisation
	288		<i>but for different reasons</i>	
	289		<i>a tax doesn't</i>	
	290		<i>because it puts an extra charge on the good</i>	
	291		<i>a parallel importing ban does it</i>	
	292		<i>because it um causes a shortage of the CDs</i>	

extract from Text C

Attempting to understand reasons for parallel importing is a major focus of the students throughout the tutorial discussion, for example,

turn	mess	interactant		Rhetorical Unit
362	632	Tiff	<i>so they tend to produce more after this</i>	Account
363	633	See	<i>hmm</i>	
364	634	Tiff	<i>so</i>	
	635		<i>and then the big</i>	
	636		<i>because of the price (is) high</i>	

extract from Text 6

[enhancing:cause-conditional:purpose]

In this instance, the logical relation expressing [purpose] is used by the students in response to Tiff's question seeking the option [apprise] *why?*

turn	mess	interact.		Rhetorical Unit
103	139	Tiff	<i>why () (?restrict) ah imports from overseas right?</i>	Account
	140		<i>so there may be a demand more than a supply</i>	Prediction
	141		<i>which the producers can really produce ==</i>	
		gloss:	<i>so local producers can provide for the demand</i>	

extract from Text 4

[enhancing:cause-conditional:result-consequence]

The logical relation expressing [result-consequence] occurs frequently throughout the tutorial. Consequence is expressed variously as the outcome of a prediction or as one of a series of outcomes. The expression of [consequence] offers an important gauge of the shifts in the lecturer's explanations from conditional predictive reasoning to the more congruent implication sequences. Her focus on consequences of parallel importing increases, moving away from explicit reasons as her explanations became more congruent, for example,

turn	mess	interactant		Rhetorical Unit
302	520	Eco lecturer	<i>and at twenty dollars that would be the demand</i>	Conjecture
	521		<i>and that would be the supply</i>	
	522		<i>so we would have that many imports coming in</i>	

extract from Text F

Explicit and implicit relations within clause complexes

Within the discussion the role of explicit and implicit relations, as described by (Halliday, 2004:548), is considered. In the case of implicit relations, the semantic relationship is clearly present but unexpressed, for example,

Explicit	<i>Australian won't produce CDs, because the price is too low for them</i>
Implicit	<i>Australian won't produce CDs, the price is too low for them.</i>

Section 3

Construing *causal Arguments*: examining the lecturer's contingency strategies and the students' appropriation of causal reasoning

The following discussion considers, firstly, the contingency strategies undertaken by the lecturer as she responds to the students' inquiries about the meaning of parallel importing. The strategies of interest by the lecturer are the adjustments made to her construals of *Thesis* and *causal Argument* in initial explanations (Texts A-C) and then later in interactions (Texts D-F). The second area of consideration is the influence these contingency strategies have on the students' capabilities to construe causal explanations.

In the lecturer's explanations, a pattern of embedded RUs is apparent in the instructional discourse: Principle, Conjecture, Prediction, Account, and Generalisation. This pattern, particularly in Texts A, B, and C, closely reflects the goals of written academic economic discourse. These goals are described as the generation of economic predictions construed as generalised principles. The predictions are tested by theoretical models. In the lecturer's earlier explanations, RU Conjecture frequently expresses hypothetical predictions about the model. The capacity to hypothesise about economic models is an important feature of the discourse. As Marshall explains (1895:xix), all economic doctrines assume certain conditions and in this sense are hypothetical. In the lecturer's later explanations, however, hypotheticality is expressed frequently via modality.

i. the lecturer's initial construals of *causal Argument*

Causal-conditional arguments, as noted, occur extensively in the first phase of lecturer's responses to the students' questions (Texts A-C). Causal-conditional arguments have the potential to render causes hypothetical, as is evident in the lecturer's explanations shown below in an example from Text B. In particular, Text B will be used to illustrate

predictive reasoning in the lecturer's earlier explanations. Text B shows an iterative structure of *Thesis ^ Argument* which expresses hypothetical predictions manifest in the matrix RU Conjecture, message 208, *first of all start here at equilibrium*,

turn	mess	interact.		
				Re-orientation
142	207	Eco lecturer	<i>let me start again</i>	
				Procedure = ^(Practicum)
142	208	Eco lecturer	<i>first of all you might start here at equilibrium</i>	Conjecture
	209		<i>and say (you) add on foreign trade</i>	Action
	210		<i>(it) push the price to whatever the world price is</i>	
143	211	Li	<i>yes yes</i>	
144	212	students	<i>ahha</i>	
				?Thesis/Argument/ Procedure^ (Practicum)
145	213	Eco lecturer	<i>then if you bring parallel importing into it</i>	Account
	214		<i>it pushes the price back up</i>	[cause-conditional: condition]
146	215	students	<i>hmm</i>	
147	216	Eco lecturer	<i>toward equilibrium you see</i>	
148	217	students	<i>ooh</i>	
149	218	Eco lecturer	<i>because what it says effectively it says only that amount of imports can come in</i>	Argument [cause-conditional: reason/explicit]
	219		<i>because it won't allow all of those in</i>	Prediction [cause-conditional: reason/explicit]
	220		<i>but it will allow this little bit of imports in</i>	
150	221	Li	<i>ooh</i>	
151	222	Eco lecturer	<i>it bans some of the imports</i>	Generalisation
				Argument [cause-conditional: condition]
	223		<i>now if it banned all of the imports</i>	Conjecture
	224		<i>it would bring it back up here to equilibrium OK</i>	
	225		<i>so you you've got</i>	Argument [cause-conditional: consequence] unfinished

extract from Text B

The initial element *Re-orientation* shows the lecturer's repair to her earlier response to Li's question *you know parallel importing [does] it become a market?* shown in Text A. *Practicum* is expressed in RU Action embedded in the matrix RU Conjecture.

The lecturer's explanations are then constituted by iterative sequences of *Thesis* supported by *causal-conditional Argument(s)*. The *Argument(s)* are expressed by three kinds of [conditional] enhancement: [cause-conditional:condition], [cause-conditional:reason/explicit] and [cause-conditional:result-consequence].

It could be argued that the function of the conditional statement by the lecturer in Text B, messages 213 – 216, *then if you bring parallel importing into it, it pushes the price back up toward equilibrium, you see* is to express several functions in the instructional discourse. These functions could be construed as either a continuation of the *Procedure*; an establishment of a further *Thesis*; or, a construction of a conditional syllogism. Although the possibility of multiple functions is unusual in the data, it needs to be noted that there are some differences in the types of causal relations expressed in some of the spoken data. No single set of cause options will necessarily construe one kind of explanatory argument. Thus, it is the *potential* structure of functions in the instructional discourse that is the focus here.

Theoretical aspects of the model are explained in the *causal Argument* in RU Account which provides a linguistic account of the ban's inherent characteristic functions, messages 213–218. These functions are explained in the sequence of [conditional] clause complexes expressing,

- i. [causal-conditional] *then if you bring parallel importing into it, it pushes the price back up toward equilibrium you see*
- ii. [causal-reason/explicit] *because what it says is only that amount of imports can come in.*

RU Prediction, messages 219-220, construes an element of the *causal Argument* by predicting the function of the parallel importing ban expressed by the paratactic clauses [causal-reason/explicit] *because it won't allow of those(=imports) in* and

[extending:addition:adversative] *but it will allow this little bit of imports in*. RU Conjecture, messages 223-224, supports the second *causal Argument* by speculating on what might eventuate as a result of the parallel importing ban expressed by the hypotactic clause complex [causal-conditional] *not if it banned all of the imports, it would bring it back up here to equilibrium OK*. RU Generalisation, message 222, establishes the second *Thesis* by stating a central concept of the model *it(=parallel importing) bans some of the imports*.

Further examples of causal conditional reasoning in the lecturer's early Texts (A – C), expressed as both *Thesis* and *Argument*, are given in Table 8.3 below,

Text	<i>Thesis</i>	<i>Argument</i>	Rhetorical Unit
A	<i>then what parallel importing does is</i>	<i>if the world price is lower we've got this shortage</i>	Reflection
B		? <i>then if you bring parallel importing into it it pushes the price back up toward equilibrium you see</i>	Account
B	<i>it(=parallel importing) bans some of the imports</i>	<i>now if it banned all of the imports it would bring it back up here to equilibrium OK</i>	Conjecture
C	<i>no no if we had parallel importing we would get imports QS to QD</i>		Conjecture

Table 8.3 Examples of causal conditional reasoning in the lecturer's early Texts (A– C)

In Text A, the conditional syllogism *if the world price is lower we've got this shortage* is expressed in RU Reflection rather than RU Conjecture or Account, as in the other instances. This is explained by the central entity construed as reference to the participants *we* in the main clause. To reiterate, RU Reflection expresses the current habitual state of affairs of an interactant.

The query conditional syllogism in Text B, expressed in RU Account, may also construe *Procedure* and/or *Argument* in the lecturer's response. Rather than the likelihood of an event occurring, as in RU Conjecture, RU Account here provides a linguistic account of the central entity *parallel importing* in terms of its characteristic functions.

ii. the lecturer's more congruent explanations

The lecturer's explanations, as discussed previously, became more congruent in her second discussion with the students (Texts D–F). This strategy to explain the model more congruently is evident in shifts in ideational meaning, ie, shifts in word choice and processes and in the logical construction of her explanations. In Chapter 5 (see *The shifts apparent in the lecturer's texts (A-F)*), an examination of the shifts in experiential meaning in the lecturer's responses revealed that her earlier focus on second order metaphoric elements had narrowed to just three participants in her later explanations. These participants were the more congruent, *price of CDs*; reference to *we*; and, *number of CDs*. The lecturer's construal of *Thesis* and *causal Argument* in these later explanations also reveals a different construction of clause relations. The sequence of events are linked by extension of information, rather than hypotactic conditional enhancement of information.

An illustration of the shifts are apparent in an excerpt from Text F below. This excerpt is taken from a much longer sequence constituting the lecturer's response to Li's question, message 488, *the parallel importing price is set by the government?* (see Appendix A for full transcript),

turn	mess	interact		Thesis
311	543	Eco lecturer	<i>we're ten short</i>	Reflection
	544		<i>so that starts to push the price up</i>	Argument Principle
	545		<i>and as the price goes up</i>	
	546		<i>brings more sellers into the</i>	
	547		<i>and takes buyers out</i>	
	548		<i>buyers can't afford this much</i>	
	549		<i>and eventually ==</i>	
312	550	Li	<i>oooh</i>	Prediction
313	551	Eco lecturer	<i>the price will stop rising</i>	
	552		<i>when you get here to say twenty seven dollars</i>	Account
314	553	Li	<i>OK</i>	
315	554	Eco lecturer	<i>because now there's no shortage anymore</i>	Conjecture
	555		<i>because at twenty seven dollars this might be um ah what was it would have be say seventy</i>	
	556		<i>so we've got seventy supplied domestically</i>	Reflection
	557		<i>more domestic supply</i>	
	558		<i>and there's um</i>	Report
	559		<i>it can't actually</i>	
	560		<i>it can't be == seventy</i>	Account
316	561	Cin	<i>sixty five</i>	
317	562	Eco lecturer	<i>that's got to == be sixty five</i>	Account
318	563	Cin	<i>== sixty five sixty five</i>	
319	564	Eco lecturer	<i>and that's got to be == seventy five</i>	Account
320	565	Cin	<i>seventy five</i>	
321	566	Eco lecturer	<i>something like that</i>	Account
	567		<i>so seventy five is the total amount that people will want</i>	

excerpt from Text F

The excerpt again shows iterative elements *Thesis* ^ *Argument*. In this instance, however, the *Thesis* is expressed in RU Reflection, message 543, rather than Generalisation or Account as in the lecturer's earlier explanations. RU Reflection *we're ten short* is expressing the habitual state of affairs of an interactant, albeit construed as second order *we*. The depth of the RU structure expressing the *Argument* indicates a 'cascading' sequence of information. The sequence of information expressed in a series

of embedded RUs is an extended implication sequence. The various implications and impacts of parallel importing unfold as the lecturer describes further consequences of the ban. In contrast to Text B and the earlier hypothetical causal explanations, the implications of parallel importing are constructed here largely by paratactic clauses linked by [extending:addition:positive] *and* and *so ...* .

RU Principle, which constitutes the classical economic syllogism expressing the theory of demand and supply, is the newly-identified RU in this data. A comparison of RU Principle used by the lecturer in Texts A and F is shown in Table 8.4 below, ie, at the beginning and towards the end of the tutorial. The comparison provides an illustration of the lecturer's contingency strategies undertaken in her explanations. The conditional hypothetical predictions made in RU Principle in Text A are almost a procedural text by Text F. Her adjustments include the following:

- a. experiential meanings which show a *deconstruction* of second order technical terms in Text A to more congruent participants, albeit still abstract, in Text F; and,
- b. logical meanings which include shifts from a conditional syllogism construed by implicit relations between clauses in Text A to an implication sequence in Text F construed by paratactic clauses linked by [basic:extending:addition:positive],

Economics lecturer	
Text A	Text F
<i>and then it(=parallel importing) says four effects</i>	<i>we're ten short</i>
<i>and those are the same as a tariff</i>	<i>so that starts to push the price up</i>
<i>price goes up</i>	<i>and as the price goes up</i>
<i>quantity supplied rises</i>	<i>brings more sellers into the</i>
<i>quantity demanded falls</i>	<i>and takes buyers out</i>
<i>and imports fall to the right amount</i>	<i>buyers can't afford this much</i>

Table 8.4 Comparison of RU Principle used by the lecturer in Texts A and F showing shifts from conditional syllogism to theory expressed as an implication sequence

The use of RU Reflection, messages 556-558, and Report, messages 559-566, in Text F indicates far more interpersonal negotiation in the discussion and less metaphoric construals of the model. Here, Reflection refers to the interactants, message 556, *so we've got seventy supplied domestically*. Report refers to the current non-habitual states or activities of an absent object. The absent object is the demand and supply diagram which the students were attempting to draw. RU Report, messages 559-566, *that's got to be seventy five* expresses a repair to a calculation made on the diagram by the lecturer,

turn	mess	interactant		Re-orientation
299	513	Eco lecturer	<i>let me show you</i>	Action
	514		<i>there's there's the equilibrium price of thirty</i>	Thesis Observation
	515		<i>this is say I don't know um twenty = dollars</i>	Argument Conjecture
300	516	Li	<i>= twenty yes</i>	
301	517	Tiff	<i>= twenty</i>	
302	518	Eco lecturer	<i>OK</i>	
	519		<i>now ah</i>	
	520		<i>and at twenty dollars that would be the demand</i>	
	521		<i>and that would be the supply</i>	
	522		<i>so we would have that many imports coming in</i>	
303	523	Li	<i>OK</i>	
304	524	Tiff	<i>mm</i>	

extract from Text F

As the lecturer attempted to explain the model more congruently, one clause extended another by adding new information in the implication sequence. The hypothetical nature of her responses were realised then via modality, messages 520 – 522, expressed by *would be* and *would have*, as shown in RU Conjecture, rather than conditional clauses. As Halliday (2004:412) explains, these implication sequences are more likely to be construed paratactically than hypotactically, as in this instance.

Other examples of shifts to hypothetical reasoning via modality construed in the lecturer's explanations of *causal Argument(s)* are given in Table 8.5 below. The initial shift to the use of modality occurred toward the end of Text C,

Text	Thesis	Argument	Rhetorical Unit
C	<i>no no if we had parallel importing we would get imports QS to QD</i>	<i>but say we had thirty dollars here twenty dollar here it might push it up to... well it says seven dollars here but [it] might push it up to twenty seven dollars something like that</i>	Conjecture
D	<i>the supply curve is further out to the right so the price is lower</i>	<i>so it's just whatever demand and supply conditions [are] overseas that firms might be more efficient at producing them and have better technology to produce them</i>	Conjecture

Table 8.5 Examples of shifts to hypothetical reasoning via modality construed in the lecturer's explanations of *causal Argument(s)*

In summary, the *Thesis* and *causal Arguments* construed by the lecturer reveal distinct contingency strategies in response to the students' questions and confusions. These strategies are evident in her adjustments to ideational meaning, ie, to the experiential and logical meanings. Experiential meaning became more congruent – from second order metaphor, abstraction and technicality. Shifts in logical meaning meant clause complexes were no longer construed as conditional causes. Instead, the lecturer described the mechanism of parallel importing as an implication sequence, one event leading paratactically to another by the addition of information, albeit still largely hypothetical. The hypothetical nature of the more congruent explanations was achieved via modality.

The lecturer's contingency strategies to shift from conditional reasoning to near-narrative explanations, outlining implications and consequences, offer much for the critics of economics for its paucity of explicit explanations. In relation to this study and

mediated learning, the examination of the contingency strategies means a closer scrutiny of how complex theoretical concepts are explained. Scrutiny of the lecturer's responsiveness to the students' difficulties provides a new insight into the world of academic theory and practice, particularly, in relation to the meanings that students need to acquire. The students' strategies to understand these meanings will now be discussed.

The students' appropriation of causal reasoning

The contingency strategies adopted by the lecturer in her explanations appeared to influence the students in unexpected ways. As the students attempted to explain parallel importing, the same kind of adjustments described in the lecturer's explanations, ie, from causal conditional reasoning to more congruent explanations appear in their interactions.

The students' attempts to construe causal reasoning will now be described.

i. initial attempts to replicate causal conditional reasoning

Having heard the lecturer's causal conditional explanations several times (Texts A – C), the excerpt below from Text 5 shows the students' attempts to explain the economic model hypothetically, as the lecturer had done. Here, *Re-orientation* is expressed by Ken's conditional question *what's the cost if the price go[es] up?* and Tiff's follow-up conditional question *if the price increase[s] what's the effect?* in RU Conjecture. In response, See's attempted *Thesis* is expressed as a hypothetical conditional clause complex in RU Account and RU Conjecture, messages 383-384, *this the world's prices then if the price is forced to be increased then the local producers reduce the price to a lower price*. See, however, failed to express any supporting *Argument* clearly enough to convince his colleagues, evident in Tiff's claim in RU Commentary, message 390, *I['m] confuse[d]*,

turn	mess	interactant		Re-orientation
226	376	Ken	<i>what's the cost</i>	Conjecture [cause-conditional: condition]
	377		<i>if the price go up?</i>	
227	378	Tiff	<i>if the price increase right</i>	
	379		<i>what's the effect?</i>	
228	380	See	<i>what's the effect?</i>	
	381		<i>ah if the price if the price to be [is] forced to increased</i>	
	382		<i>this is the world world ah world's prices</i>	Thesis Account
	383		<i>then if the price ah is forced to be increased</i>	[cause-conditional: condition]
	384		<i>then um the local producers the price reduce to lower price</i>	
		gloss:	<i>then the local producers reduce the price to a lower price</i>	
	385		<i>er so they can still comcompete with those ah prices</i>	Argument
	386		<i>and ah then this can still protect the local industry</i>	
229	387	Cin	<i>sorry?</i>	Commentary
230	388	See	<i>[do] I confuse [you]?</i>	
231	389	Cin	<i>I don't know the</i>	
232	390	Tiff	<i>I confuse</i>	

excerpt from Text 5

It is apparent to offer any conjecture about the model was difficult for the students. Their attempts to express causal conditional reasoning frequently faltered. Instead by Text 6, they resorted to humorous banter as shown below,

Text	<i>Thesis</i>	<i>Argument</i>	Rhetorical Unit
6	<i>why [do] they(=consumers) want less(=CDs)? because the price is higher</i>	<i>if the price (is) higher you have to buy! maybe [students laugh]</i>	Avocation

Table 8.6 An attempt to express causal conditional reasoning by the students using humour

ii. later construals showing more congruent attempts to explain the model

The students then attempted to explain parallel importing more congruently, again as the lecturer had done, shown previously in Text F. The final phase of the students' discussion is construed as a more congruent iterative *Thesis* ^ *Argument* structure, as shown below in the excerpt from Text 6,

turn	mess	interact		<i>Thesis</i>
386	669	Li	<i>this is this is not produced by anyone</i> [points to demand and supply diagram]	Observation
	670		<i>so the the the price will push up</i>	<i>Argument</i> Prediction [causal-consequence]
387	671	Tiff	<i>to twenty seven</i>	
388	672	Li	<i>to twenty seven no?</i>	
389	673	Tiff	<i>shor-tage</i>	
390	674	Li	<i>ah cause because this the the</i>	
391	675	Cin	<i>the buyer</i>	
392	676	Li	<i>yeh because the supply because the eh price is higher</i>	Account [causal-reason/explicit]
	677		<i>the supplier will (intro)produce more</i>	Prediction
393	678	Cin	<i>produce more</i>	
394	679	Li	<i>and the the price is higher</i>	Principal
	680		<i>and the demand is less</i>	
	681		<i>because the buyer maybe can't afford</i>	[causal-reason/explicit]
	682		<i>and [the buyer is] not willing to buy at that higher price</i>	Account
	683		<i>so [lower demand] push[es] up the price higher to here</i>	Observation [causal-consequence]

excerpt from Text 6

In this excerpt, Li establishes the *Thesis* in RU Observation by reference to the supply of CDs illustrated in the demand and supply diagram, message 669, *this is not produced by anyone*. She then replicates the lecturer's more congruent explanations of parallel importing in the *Argument* as a series of consequences. The earlier attempts to construe hypothetical causal reasoning, shown previously in Text 5, have given way to a sequence of clause complexes [causal-consequence] and [causal-reason/explicit], eg, messages 669-676, *this is not produced by anyone so the price will push up ... because the price is higher*.

It is significant that, unlike the lecturer's consequential sequences, Li offers explicit reasons. This feature of the students' negotiations will be discussed shortly.

RU Principle: a gauge of a student's transition between metaphoric and congruent reasoning

A comparison of RU Principle used by the lecturer in Text F and student Li in Text 6, shown in Table 8.7 below, indicates a transitional appropriation of the discourse by student Li and apparent mimicry of the lecturer's shifts to more congruent explanations. Linguistically, these are evident in:

- i. Li's construal of experiential meanings which shows shifts between second order technical terms and processes, eg, *the demand is less* to more congruent central entities and processes, eg, *the buyer maybe can't afford [the higher price]*;
- ii. the logical meanings, which are expressed by explicit relations between paratactic clauses linked by [basic:extending:addition:positive], as compared with the lecturer's use of Principle in Text F shown below,

RU Principle		
Economics lecturer		Li
Text A	Text F	Text 6
<i>and then it(=parallel importing) says four effects</i>	<i>we're ten short</i>	<i>the supplier will (intro)produce more</i>
<i>and those are the same as a tariff</i>	<i>so that starts to push the price up</i>	<i>produce more</i>
<i>price goes up</i>	<i>and as the price goes up</i>	<i>and the the price is higher</i>
<i>quantity supplied rises</i>	<i>brings more sellers into the</i>	<i>and the demand is less</i>
<i>quantity demanded falls</i>	<i>and takes buyers out</i>	<i>because the buyer maybe can't afford</i>
<i>and imports fall to the right amount</i>	<i>buyers can't afford this much</i>	<i>and [the buyer is] not willing to buy at that higher price</i>

Table 8.7 Comparison of RU Principle used by the lecturer in Texts A & F and student Li in Text 6

It is noteworthy that the lecturer expresses a consequence in Text F *so that starts to push the price up*; conversely, Li tentatively offers a reason in Text 6 *because the buyer maybe can't afford [them]*.

Seeking reasons

Argument – causal [reason] and [consequence]

The frequent lack of causal factors identified in economic reasoning is relevant to this data. Several findings relate to the expression of explicit and implicit reasons in relation to parallel importing. In the lecturer's earlier explanations, the reasons were expressed explicitly; in her later responses, the reasons were replaced by the identification of consequences and implications as her explanations became more congruent. In contrast, the students doggedly attempted to realise explicit reasons for the model. The students' focus on reasons is evidenced by the number of questions seeking the [apprise] options, eg, *why?* both in their interactions with the lecturer and in their own discussions.

i. construal of explicit causal-reason in the lecturer's earlier construal of *Argument*

An example of an early explicit reason given in the lecturer's *Argument* is shown below in the excerpt from Text C. Causal reasoning here has the feature [enhancing:cause-conditional:reason] *because*,

turn	mess	interactant		<i>Thesis</i>
169	287	Eco lecturer	<i>so a tax or a or a parallel importing ban does the same thing</i>	Generalisation
	288		<i>but for different reasons</i>	<i>Argument</i>
	289		<i>a tax doesn't</i>	
	290		<i>because</i> <i>it puts an extra charge on the good</i>	[cause-conditional:reason]
	291		<i>a parallel importing ban does it</i>	
	292		<i>because</i> <i>it um causes a shortage of the CDs</i>	[cause-conditional:reason]

extract from Text C

Other examples of explicit reasons given by the lecturer are shown in Table 8.8 below. Reasons in support of a *Thesis* are most often expressed in RU Account and Prediction. Prediction appears to express the minor premise as a specific example and Account expresses the major premise which relates to inherent characteristics, as in a 'predictive syllogism',

Text	Thesis	Argument [reason/explicit]	Rhetorical Unit
B	<i>then if you bring parallel importing into it it pushes the price back up toward equilibrium you see</i>	because what it says only that amount of imports can come in because it won't allow all of those in	Account Prediction
D	<i>this is the demand and supply in Australia you see and this is world price is set by the demand and supply in another country which is just below this</i>	now we have this because we assume like with the tariff model that we're a very small country	Reflection
F	<i>it(=the price)'s not set by anybody it's just set by the shortage</i>	the price will stop rising because now there's no shortage anymore because at twenty seven dollars it would have to be say seventy	Prediction Account
F	<i>ditto</i>	so the price will stop going up once you reach that level there it won't go up to thirty(=dollars) because thirty is the equilibrium without any imports	Prediction Account

Table 8.8 Examples of explicit reasons given by the lecturer

An example of an implicit reason given by the lecturer in Text C is shown in Table 8.9 below,

Text	<i>Thesis</i>	<i>Argument</i> [reason/implicit]	Rhetorical Unit
C	<i>...when you ban this parallel importing you cause a shortage of CDs</i>	<i>Australian won't produce them the price is too low for them to produce</i>	Prediction Account

Table 8.9 Examples of implicit reasons given by the lecturer

ii. focus on consequence as implicit rationale for the model in lecturer's later explanations

As the lecturer's construal of *Thesis* and *Argument* became more congruent, the *Argument(s)* were then expressed as implication sequences. Here, the consequences of the model were predicted in the *Thesis* as shown in the excerpt below from Text F. Each consequence is expressed paratactically.

In this interaction, reference to *you* in RUs Reflection, messages 525 and 529, *so you're not allowed to import that many* expresses the minor premise in the *Argument* as a specific outcome or consequence of parallel importing; RU Conjecture expresses the major premise, messages 520 and 521, *at twenty dollars that would be the demand and that would be the supply*, ie, the *Thesis*,

turn	mess	interact		
299	513	Eco lecturer	<i>let me show you ...</i>	Action
				Thesis
	514		<i>there's there's the equilibrium price of thirty</i>	Observation
	515		<i>this is say I don't know um twenty == dollars</i>	Conjecture
300	516	Li	<i>== twenty yes</i>	
301	517	Tiff	<i>== twenty</i>	
302	518	Eco lecturer	<i>OK</i>	
	519		<i>now ah</i>	
302	520		<i>and at twenty dollars that would be the demand</i>	Conjecture
	521		<i>and that would be the supply</i>	
	522		<i>so we would have that many imports coming in</i>	Argument
				[causal-consequence]
303	523	Li	<i>OK</i>	
304	524	Tiff	<i>mm</i>	
305	525	Eco lecturer	<i>then the government says right we're going to say you're not allowed to import this many</i>	Reflection
	526		<i>say that was um I don't know eighty yeah sixty</i>	Conjecture
	527		<i>so we had twenty twenty thousand</i>	
	528		<i>or whatever it happens imports</i>	
	529		<i>so you're not allowed to import that many</i>	Reflection
				[causal-consequence]
	530		<i>you're only allowed to import ten</i>	
306	531	Lily	<i>OK</i>	

extract from Text F

Students' concern for explicit reasons

i. interactions between the students and lecturer

The excerpt shown below from the conclusion of Text F shows the one example in the tutorial discussion of scaffolded guidance by the lecturer. The scaffolding was limited to the lecturer's feedback *that's right* repeated three times. For the students, however, the

exchange appears to have been a *eureka* moment. It is here they realised the essential reasons and rationale for parallel importing, messages 610 – 618, *local suppliers will supply more - because the price is higher - the producers will produce more; and the buyer maybe can't afford it*. The initial logical relation used by the students to express causal reason has the feature [enhancing:cause-conditional:reason] *because*,

turn	mess	interact		Thesis
346	608	See	<i>we put this into it ah I mean parallel importing</i>	Reflection
	609		<i>then ah the local supplier will might supply more</i>	Prediction
				Argument
347	610	Li	<i>yes yes because the price is higher</i>	Account [cause-conditional:reason]
	611		<i>that attract ==</i>	
348	612	Eco lecturer	<i>== that's right</i>	Commentary
349	613	Li	<i>the producer to == produce more</i>	
350	614	Cin	<i>==produce more</i>	
351	615	Li	<i>and the price is higher</i>	Account
	616		<i>and the buyer maybe can't afford it ==</i>	
352	617	Eco lecturer	<i>== that's right</i>	Commentary
353	618	Cin	<i>and cut off the</i>	
354	619	Eco lecturer	<i>that's right</i>	Commentary

extract from Text F

The pattern of RUs here reflect those of the lecturer's explanations described previously: RU Account embedded in RU Prediction expresses the *Argument* by realising the inherent characteristics of the model. RU Prediction predicts the consequences and effects of the central concept parallel importing, glossed as: *as a result of parallel importing the local suppliers will supply more CDs*.

ii. attempts to realise explicit reasons in the student-only interactions

When the students attempted to explain parallel importing for themselves, as discussed, the influence of the lecturer's more descriptive explanations is apparent. Attempts to infer conditional explanations shifted to sequences of consequences or implications as had occurred in the lecturer's explanations. A significant difference, however, is the students' continued attempts to realise explicit reasons, as shown in an excerpt from Text 6 below, messages 636, *because the price is high*, message 644, *because the price is low* and, message 647, *because of this so the price is now twenty seven*,

turn mess interact

358	623	Tiff	<i>you should you should import all those twenty</i>	Avocation
			Thesis	
	624		<i>but dollars restrict import only ten</i>	Account
		gloss:	<i>but parallel importing restricts imports to only ten (rather than twenty)</i>	
			Argument	
	625	Tiff	<i>so there is still a shortage of == ten</i>	Report
359	626	Li	<i>== ten</i>	
360	627	Tiff	<i>ten right?</i>	
361	628	Li	<i>ahuh</i>	
362	629	Tiff	<i>a shortage of ten</i>	
			Prediction [incomplete]	
	630		<i>so the producer will</i>	
			Account	
	631		<i>it's [does] not supply the people</i>	
	632		<i>so they tend to produce more after this</i>	
363	633	See	<i>hmm</i>	
364	634	Tiff	<i>so</i>	
	635		<i>and then the big</i>	
	636		because [of] the price (is) high	[cause-conditional: reason]
			so	
	637		() [students laugh]	
365	638	Cin	<i>so so so so if there so when there is a shortage</i>	Account
366	639	Tiff	<i>yeah</i>	
367	640	Cin	<i>the government said (says)that we just import ten only</i>	Generalisation
368	641	Tiff	<i>got ten only</i>	Account
369	642	Cin	<i>that's shor another shortage of == ten</i>	Observation
370	643	Tiff	<i>ten yes</i>	
	644		because [of] the price (is) low	Account [cause-conditional: reason]
			so the producer can == produce more	Account
	645		== produce more	
371	646	Cin		
372	647	Tiff	ah no no no no because of this so the price [is] now twenty seven	Commentary [cause-conditional: reason]
			so they tend to produce more	Account
373	649	Cin	<i>hmm</i>	

excerpt form Text 6

Realising adequate *causal Argument(s)*, however, presented difficulties for the students. An illustration of one such problem is shown below in the excerpt from Text 4. An

iterative structure of *Re-orientation* ^ *Thesis* and *Argument* can be seen in this excerpt. The excerpt illustrates a debate over how a parallel importing ban operates. However, in this instance, the group discussion dismantles any collective construal of an adequate *Argument*. The initial instance of *Re-orientation* is constituted by Tiff's question, message 139, seeking the [apprize:explain:reason] option *why [restrict] imports from overseas right?*

The students responded to each question by realising a central concept in relation to the model and so were able to establish a *Thesis*. The debate, however, faltered when the students experienced difficulty both in their defence of the *Thesis* and in the development of an adequate *Argument*,

turn	mess	interact.			Re-orientation
103	139	Tiff	<i>why () (?restrict) ah imports from overseas right?</i>		Account
	140		<i>so there may be a demand more than a supply</i>		Thesis Prediction
	141		<i>which the producers can really produce == gloss: so local producers can supply the shortage</i>		
104	142	See	<i>== bu</i>		
105	143	Tiff	<i>so the price will be</i>		Prediction
					Argument
106	144	See	<i>but ah parallel importing the main reason to have this is to protect their own producers</i>		
	145		<i>so ah I don't think we have to um</i>		Avocation
107	146	Tiff	<i>but how (do) they == how</i>		
108	147	See	<i>== I mean I mean base base on the parallel impor importing we don't have to think about those ah demands</i>		
109	148	Tiff	<i>yeah OK if you if you what you ahum</i>		
					Re-orientation
	149		<i>but how [do] they protect?</i>		Generalisation
110	150	See	<i>how they protect?</i>		Thesis
111	151	Li	<i>cause like I () producers right is like they produce</i>		
			<i>I mean they take the I mean ah</i>		
112	152	Cin	<i>the copyright</i>		
113	153	Li	<i>the copyright</i>		
	154		<i>and (they) produce here you know</i>		
114	155	Cin	<i>(they do) not import</i>		
115	156	Li	<i>not import is to produce here</i>		
116	157	See	<i>therefore um it's produce[d] here</i>		Account
	158		<i>then ahm</i>		

extract from Text 4

Specifically, Tiff established a *Thesis* and the beginning of an *Argument* in response to her rhetorical question, message 139, *why () [?restrict] imports from overseas?* This

question and answer sequence appears to be a device to relate the policy of parallel importing and demand and supply theory, message 140, *so there may be a demand more than a supply*. See, however, dismisses any need to consider demand as having a role in the impact of parallel importing on the market, message 147, *I mean base[d] on the parallel importing we don't have to think about those demands*. For Tiff, countering See's assertion with an adequate defence of her developing argument was obviously not possible. Instead, the exchange founders with Tiff's incomplete utterance, message 148, *yeah oK if you if you what you ahum*.

The second *Thesis* in this excerpt was in response to Tiff's counter question, message 149, *but how [do] they protect?* This *Thesis* shows another example of collaborative 'lexico-grammatical scaffolding' by Li and Cin, messages 151-156. Again, the *Argument* founders with See's unfinished utterance, messages 157-158, *therefore it's produce[d] here then ahm...*

Summary

This discussion has drawn attention to the influence of the lecturer's contingency strategies on the students' capabilities to construe causal explanations. The students' appropriation of causal explanations was not as anticipated in the goals of the Business Communication Program curriculum. The students' interweaving metaphor and more commonsense knowledge illustrates an important aspect of Vygotsky's framework. This aspect relates to an acknowledgment that the construal of educational knowledge depends, indeed, on an iterative process of mediated interactions. The shifts in the students' discussion capture something of this iterative process. The deconstruction of meaning, however, was unexpected.

Hence, investigations such as this inevitably raise more questions than can be possibly answered within the scope of a research project, including the following:

Do these iterations, viz, remediations, form part of an overall developmental process whereby students' confusions are transformed eventually into a degree of understanding?

That is, were the students then able to appropriate more mature hypothetical and metaphoric construals of economic discourse?

Or, was the need to revert to more commonsense construals by mimicking the lecturer an indication of where the students' understanding stalled?

Or, was this the mimicry necessary in the students' *praxis*?

Or, as suggested by many concerned educators in economics, was the subject, as taught to second language business students, too arcane and therefore inappropriate?

The encouraging findings among the students' confusions and suggested mimicry is their desire to understand the economic model and their task. It may be argued these findings suggest that the influence of the lecturer's contingency strategies on the students' attempts to explain the model was possibly beyond mimicry. Without the assumed background knowledge, the complex nature of hypothetical causal explanations as the beginning point in the lecturer's explanations was obviously confounding for the students. However, it seems the tutorial discussion did indeed offer the students opportunities, a *praxis* as suggested, to remediate their background knowledge, even partially. In Vygotsky's (1986:150) terms, the students' gradual control of instructional meaning meant they were able to move beyond a mere 'parrotlike repetition of words to cover up a vacuum'. This is evidenced by the advantages they took of the collaborative opportunities, posing questions and doggedly seeking reasons.

The findings throw new light onto the lecturer's role in a social constructivist approach to teaching. While the lecturer's guidance initially reflected the monologic discourse of written economics, her contingency strategies in response to students' difficulties illustrate the possibilities for greater levels of delicacy in any adjustments to meaning within the interactional dynamic. However, as suggested, her responses were reactive rather than guiding the students. Hence, in this case study, the lecturer's contingency strategies provide a very different insight into dialogic learning and semiotic mediation.

Chapter 9

Conclusion: mediating students' learning through dialogue in a university context

The aim of this study was to examine the effectiveness or otherwise of semiotic mediation as demonstrated in dialogic learning in a university curriculum. I began this research project in response to a simple quest. I wanted to understand how it is that students and a lecturer talking together increases a student's understanding of educational knowledge. One reason for wanting to understand this was intellectual curiosity; another was to theorise my professional practice.

It was emphasised throughout the thesis that the analysis of the spoken data offered unique insights into university education in several ways. First, the data were *spoken data*. This meant the investigation shifted the focus of many studies in university education from psychological accounts of 'study skills' and 'deep' and 'surface' learning to one that views the acquisition of educational knowledge as a semiotic process. In particular, it revealed that the students' attempts to understand an economic model, together with an account of the linguistic construal of predictive reasoning, was shaped by their language in use. It was acknowledged, as Hasan (2004:159-160) argues, that the students' use of language had the power to construe their understanding through meaning and so it played a crucial role in the formation of their understanding. For example, it was shown that the students' motivation and volition to understand their task was evident in the kinds of meanings sought by their extensive questioning.

Second, the kinds of contingency strategies undertaken by both the lecturer and students in their negotiations of meaning offered valuable insights linguistically into dialogic learning and mediation beyond descriptions of shifts between bi-nominal categories of meaning or a singular focus on interpersonal aspects. The case study revealed that while the students' learning was a highly collaborative dialectical process, any transformations in understanding were not at all neatly incremental, as described in the literature. Indeed, the negotiations were highly 'peripatetic'; any increments in

understanding were overall *de*volutionary. Rather than moving toward new dimensions of abstract and metaphorical language to explain and exemplify economic phenomena, the interactions indicated that significant deconstructions toward more congruent representations of economic activity were required before the students could progress in their learning. It was shown that the students' questions played a key role in this process.

Third, the analysis of the interactions provided a linguistic account of the rhetorical semantic activities inherent in predictive reasoning and argumentation in economic discourse. The investigation acknowledged that scant attention has been given to causal rhetorical relations in reasoning at the semantic stratum within Systemic Functional linguistics studies or in educational linguistics more generally. The complex nature of the discourse provided a unique opportunity to examine predictive causal reasoning, and, significantly, how this was construed and negotiated dialogically by the economics lecturer and the students in the case study.

The linguistic analysis showed how the students attempted to understand the economic model collaboratively

The linguistic analysis of the students' attempts to understand the economic model was made possible by the use of Rhetorical Unit (RU) analysis, as developed by Cloran (1994, 1995, 1999a, 1999b); by Bernstein's characterisation of pedagogic discourses, viz, the regulative and instructional discourses; and, by adaptations of Cloran's (draft:2) characterisation of the school instructional discourse to this data involving spoken economic discourse.

It was shown that the RU analysis undertaken primarily involved the identification of relations at the level of semantics between the basic constituent of the text, ie, the message, and how these relations constructed the units of rhetorical meaning in the text, for example, predictions, observations, conjectures, generalisations, etc. The study provided a link between Rhetorical Unit analysis and Bernstein's notions of the regulative discourse to offer linguistic evidence of the challenges faced by the students throughout their negotiations. The analysis showed that the unrelated nature of the RUs indicated the students' difficulties in self-regulating their task and the particular

struggles the students experienced, in particular, i. how to proceed with the task of drawing the demand and supply diagram, ii. the relationship between the diagram and the economic model, and, iii. the rationale and reasons for the application of the economic model, ie, the parallel importing of CDs.

By taking Bernstein's characterisation of the regulative discourse as a beginning point in the investigation, the problems of identifying the regulative discourse in university education were discussed. It was argued these problems arose due to the different interpretations of the regulative discourse presented in the literature. These interpretations variously describe the regulative discourse as 'moral order' and as 'teacher's goals'. While it was argued 'moral order' and a 'teacher's goals' may well be synonymous, it was also noted that Bernstein (1990:184) himself concedes it is not at all obvious how the regulative discourse creates order, relation, and identity in instructional discourse.

A proposition was put forward which suggested that a kind of second order regulative discourse could be identified in the spoken data. It was further suggested that the *second order* nature of the interactions concurred with Bernstein's identification of the regulative discourse as virtual and imaginary abstractions. However, it was conceded that any sense of a *second order* economic regulative discourse as a specialised discourse used by the lecturer was more likely a feature of the instructional discourse. The lecturer's directives for students to draw the diagram were construed as a procedural text and so showed features of instructional content. The proposition attempted to highlight the difficulties of applying, in a university context, the different interpretations of Bernstein's ideas of a regulative discourse as discussed in the literature.

The analysis then adapted Cloran's (2006, draft:2) characterisation of the school instructional context in order to examine the tutorial texts. The purpose of this discussion concerned the pressure on students in university education to relate cause and effect or consequence in their examination of theoretical principles, or, as in this case, an economic theory and model. The analysis was also intended to address concerns expressed in the literature regarding the participation of second language international students in Australian higher education. These concerns frequently

typecast second language international students as reluctant to develop their capabilities beyond recitation. A further typecasting addressed in this analysis is students' propensity to avoid those subjects which require a mastery of exposition and less familiar realities.

The categories and the relationship between Rhetorical Units revealed how coherently, or otherwise, the lecturer and students construed the various functions of the instructional discourse. From the analysis of RUs, it was possible to confirm those functions within the instructional discourse which were problematic for the students. Linguistically, the examination took account of predictive causal relations at the level of clause and Rhetorical Units at the semantic level, both because they are able to provide theoretical explanations for *causal* Argument in Cloran's functional schema and because of the prominence of predictive reasoning in economic discourse.

The analysis demonstrated that while the students indicated a deference and a need to resort to mimicry of an authoritative discourse, they also demonstrated a determination to uncover explicit reasons for the economic model, evident in the extent of their questions. As a result, the lecturer's explanations became more congruent in response to the students' confusions. In a curious kind of mimicry, the students' construals also became more congruent. Despite arguments in the literature that the discourse is authoritative and hence not given to dialogic negotiations, it was evident the students were able to remediate some understanding of economic theory, albeit to a limited degree, in their negotiations with the lecturer.

The students' motivation to understand and undertake their task was evident, as noted, in the kinds of meanings sought. A significant feature of their inquiries was their continued attempts to realise explicit reasons for the economic model and for their assignment task. In the tutorial data, several ways to express explicit and implicit reasons were found. With respect to the lecturer's explanations, the findings included the following: i. reasons were expressed explicitly in her earlier responses; and, ii. reasons were replaced by the identification of consequences and implications in later responses as her responses became more congruent. In contrast, the students doggedly continued their attempts to understand explicit reasons for the model. The students' focus on reasons was evident in the number of questions seeking the [apprize] options,

eg, *why?* both in their interactions with the lecturer and in their own discussions. The explanation of question types and data relating to the questions was set out in Chapter 5. Unwittingly, the students' pursuit of reasons highlighted a contentious feature of the discipline, ie, the inadequacy of causal explanations given for the hypothetical predictions, consequences and outcomes of economic models.

The findings showed that the *causal Arguments* construed by the lecturer further revealed distinct contingency strategies in response to the students' questions and confusions. It was argued, that the lecturer's contingency strategies, which shifted from conditional reasoning to near-narrative explanations outlining implications and consequences, offer much for the critics of economics, ie, for its paucity of explicit explanations, and, indeed for the argument that economics is dialogically non-negotiable. A discussion as to the paucity of explicit explanations was set out in the introduction of Chapter 8 as the context for this examination of contingency strategies. This examination provided a closer and unique scrutiny of how complex theoretical concepts are explained. On the one hand, the scrutiny of the lecturer's mentoring indicated her responsiveness to the students' difficulties and hence new perspectives into the teaching practices of a university lecturer. On the other, it provided a different view of academic theory and practice from a linguistic perspective, ie, the meanings that students need to acquire and the relevance, or otherwise, of some university curricula.

In this sense, the application of this socially-oriented approach to learning demonstrated a learning scenario which was tolerant of the difficulties that many students encounter. In such a scenario, transitional mimicry was not intentional copying or a desire to plagiarise. Instead, the students' necessary mimicry was considered to be an attempt by students to understand and overcome their limited understanding. It was a natural transition for students from their intermental to intramental understanding as they attempted to acquire "the echoes and reverberations" of historical public discourses, particularly those considered to be unnegotiable dialogically.

It was pointed out that such learning scenarios and environments are tolerant of a praxis of not being so sure. As such the students were able to encounter and explore uncertainties, hesitations, repetitions, and discrepancies. An educational environment

that tolerates students' uncertainties therefore enables collaborative explorations of meaning.

Findings in relation to the discourse of academic economics

Colleagues who teach economics may contend that I have been overly critical of academic economics and called too much on the voices of the dissenters in the discipline. They may argue that many other academic disciplines have equally critical voices from within. My position here is twofold. The first is that it was necessary to understand the reasons for the students' difficulties, particularly as they did not encounter the same kinds of difficulties in their other subject, accounting. Had they experienced similar difficulties, then the spectre of being newly-arrived second language international students may have been surmised as the critical ingredient in their difficulties with their assignment task. However, it was their tasks in economics that presented most difficulties. In fact, to locate discussions by economists who acknowledge that the discourse is indeed complex was not difficult at all, and provided the most valuable insights by far.

To deny that economic discourse is arcane and complex is to deny students opportunities to realise its essential linguistic and rhetorical functions. A contribution of this study has been to offer academic economists critical insights into how 'doing economics' occurs, particularly economics taught as a service subject to second language business students. Rather than making intuitive assumptions, such as "it's all in the diagrams", these findings reveal in many ways how the discourse is actualised and how it communicates what economists want to say, and, importantly, how it constructs their arguments and reasoning.

Reflecting on the aim of the case study: the effectiveness of dialogic learning and semiotic mediation in a university curriculum

The aim of this study was to examine the effectiveness or otherwise of dialogic learning and semiotic mediation as applied in a university curriculum. The following discussion is a reflection on the aim and the implications of the study both in retrospect and in

prospect. The current and prospective status of the BCP will be used as a benchmark for potential sites of teaching reform in degree curricula at Australian universities.

With the hindsight provided by this study, the challenges faced by the students in the BCP may have been overcome if dialogic negotiation had not been undertaken as a generic or pan-disciplinary approach, or indeed, as an intuitive response on my part. In this sense, the findings from the study have provided an invaluable theorisation of my practice to be shared with others. Based on the findings, then, in a revised model, greater emphasis would be given primarily to three facets of the curriculum. The first concerns a greater refinement of the traditional economics curriculum to the needs of students. The second concerns the explicit teaching of the essential rhetorical functions of the discipline discourse. In this sense, the curriculum of the economics module would have been more akin to the curriculum of the accounting module. The third involves the professional development of all program colleagues if innovative approaches to learning and teaching are to be successful in university education.

In a revised curriculum the students would be guided in the construction of their predictions of the causes and consequences of economic models which relate more to actual professional practice. Their questions would be acknowledged as a gauge of their understanding and a guide for any contingency strategies to be undertaken by the instructors. In this process, the development of students' capabilities to understand the symbolic meaning of elements in visual evidence and the corresponding meaning of theories, principles, and actual practice would be a particular focus of the instruction.

The aspect involving professional development, however, is beyond the role and responsibility of a single coordinator or lecturer. In the BCP, I had to rely on my colleagues' expertise to deliver each discipline module of the program. The implicit aims of programs such as these 'communication skills' programs is often, as noted in Chapter 1, to provide the interstices between the kinds of quality assurance increasingly required of university teaching and the discreteness of the discourse within the educational context. By introducing innovative learning and teaching approaches, the programs often provide implicit professional development, as occurred in the BCP, rather than anything didactic. In hindsight, more professional development was necessary for all the lecturers involved. At the very least, the aims and methods for

effective mentoring should have been considered more fully with each discipline specialist in the design stages and reviewed throughout the teaching of the curriculum. Thus, while curriculum design may be the responsibility of a faculty and individual lecturers in consideration of professional standards, most other aspects of educational delivery is dependent on the university, ie, its management, to choose how to deliver and achieve its teaching objectives. While the Australian government has shifted its emphasis away from the quality of university education being determined by market forces since the late 1990s (Biggs, 2003:283), in reality, as autonomous institutions, each university is a participant in an increasingly global educational market. On the one hand, the university must convince external auditing systems, eg, Australian University Quality Agency (AUQA) and professional stakeholders of its achievement in terms of quality assurance and enhancement, yet survive in a global education market as a largely self-funded institution.

The evolution of the BCP offers an excellent benchmark to gauge prospective implications and a mirror of this broader educational context. This study was undertaken in the first year of the BCP as a trial program involving 21 students. The BCP now has over five hundred enrolled students, near a five-fold increase since its trial program. Students can participate in either on-shore or off-shore programs. The on-shore program caters to approximately one hundred students. The remaining four hundred students, enrolled in the off-shore program, are located variously in Hong Kong, Singapore and Malaysia. The four BCP lecturers travel several times each year to deliver the program in these locations. Discipline specialists no longer participate in the program; its focus has become predominantly study skills. Maintaining a commitment from discipline lecturers became too difficult, as they also needed to respond to the increasing demands on their own teaching.

It may be wondered who has benefited from this rapid expansion. My colleagues have received awards and citations for their achievements, and admiration for their energy. It can be argued more international students have been given opportunities to participate in a degree program with the status they desire. Similarly, it is undeniable that the university has maintained or possibly enhanced its market advantage and necessarily its income to ensure the provision of its education program into the twenty-first century.

It may also be wondered who and what has been lost in this participation in market-driven mass education. It is argued here that neo-Vygotskian social constructivist approaches, while recognised by many academics as essential in the optimisation of student learning, have little place in Australian degree curricula at this point in time in the first decade of the twenty-first century. Indeed, mooted reforms to the BCP again offer a barometer of trends. These reforms include the possibility of a more objectivist approach for easier, and cheaper, delivery of information, or, alternatively to discontinue the program on the basis of its cost.

If there is to be any catalyst for more socially mediated learning in Australian universities it will need to come from those concerned about the quality of educational provision, most evident in the capabilities of current students and graduates. In the broader Australian community, among those with vested interests are the employers and their professional organisations, such as business and engineering, which already have significantly influenced standards determined for degree curricula, if not the content or learning and teaching methodologies. It is also these groups to whom the political decision makers may listen. Perhaps industry might begin to refund universities for their new graduate employees. It seems it will not come from the currently non-critical consumers, ie, graduating students who are only too pleased to have survived the whole degree process.

Within universities, as autonomous institutions, decision makers need to heed the calls from my academic colleagues for more socially-constructivist approaches to learning. These calls, however, are becoming increasingly quieter as the challenge of teaching larger numbers of students intensifies, and at the same time, as employment conditions have devolved over the past decade from tenured to casual employment or short-term contracts.

There is perhaps a more difficult obstacle for any socially-oriented methodology to overcome. It is mentioned here because it always lurks quietly in university education, but its effects cannot be underestimated. This is the lack of curiosity on the part of many academics, but not all, about language and how language construes the principles and rationale for the organisation of meaning in their academic discourses; in the way the language constructs their arguments and propositions; and, how these meanings can

be negotiated with students. It is this lack of curiosity or interest which assigns language, as Hasan (2004/6:159-160) notes, a passive role in learning. In this view, it is as if thoughts and experiences exist independently of language. While reforms are difficult to achieve, as noted, the onus is still on academics whose responsibility it is to facilitate student learning in the most effective and engaging ways.

As a consequence of all these factors, consideration of the effectiveness of neo-Vygotskian approaches to learning and teaching in university is not likely to be widespread in the near future, unlike in more junior educational system. To date, it has had very little impact in university education except to engender opposition, in some cases, from those who find the linguistic theories which attempt to explain the approach, too opaque. Yet, by combining neo-Vygotskian approaches and the resources of linguistic theories, such as systemic functional linguistics in university education, the potential for student learning is considerable. It is clear from the findings of this study that it offers many explanations for not only second language international students, but also, for all students, their teachers and administrators.

Therefore, this research can be viewed as more than an investigation of one problem for one group of students. Even if dialogic learning is not to be a focus of immediate reforms in university education, further empirical research is necessary in a variety of academic discourse types. As Cloran (1994:391) suggests, this research needs to be in those discourses with a high degree of nominalisation to better understand the phenomenon addressed here as rhetorical activities demonstrated in Rhetorical Unit analysis. Further research would deepen the insights, and hopefully curiosity, into how it is that lecturers and students talking together communicate meaning in the classroom.

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Appendices

Appendix A Question and Rhetorical Unit Analysis

Appendix B Transitivity and Rhetorical Unit Analysis

Appendix A

Question and Rhetorical Unit Analysis

		Rhetorical Unit	question type	Central Entity	Event Orientation
turn	mess				
		interactant			
student - student texts					
Text 1					
1	Tiff	can someone please draw the diagram		someone	[G&S:non-exhortative]
2	Li	no problem		[interactant:addressee]	[conc=concurrent G&S=good and services hypo=hypothetical non-hab=non-habitual]
3	Tiff	(because) I lost my diagram		I	[prior]
4	Tiff	can someone show me		[interactant:speaker]	[G&S:non-exhortative]
5	Tiff	(because) I don't seem to have it		[interactant:addressee]	
6	Li	me too		I	[conc;non-habitual]
7	Li	rough draw draw the		[interactant:speaker]	
8	Cin	rough form rough diagram		[interactant:speaker]	[G&S:exhortative:immediate]
Text 2					
9	See	OK (do we do) all these topics?	[confirm:enquire:ask:elliptical]	(we)	[conc;habitual]
10	Li	no we pick and choose		we	[interactants:here and now]
11	Cin	we we pick and choose		we	[conc;habitual]
12	See	OKKK discuss together		[interactants:here and now]	[conc;habitual]
13	See	eh first of all ah this first dot point there is a ban there is a ban on the like like like the CDs		[none]	[G&S:exhortative:immediate]
14	Li	question says what how much parallel importing is		a bah	[conc;habitual]
				parallel importing	[conc;habitual]

	Rhetorical Unit	question type	Central Entity	Event Orientation
11	15 Tiff	give affirmations for	[none]	[G&S:exhortative:immediate]
12	16 See	parallel parallel		
13	17 Cin	define importing		[G&S:exhortative:immediate]
14	18 Li	importing [extends final syllable]		
15	19 See	Li [mimics by extending final syllable] [students laugh]		
16	20 Tiff	we better answer (=the question)	we	[future]
17	21 Tiff	what's parallel importing?	[interactants:here and now] parallel importing	[conc:habitual]
18	22 See	ah		
19	23 Li	it is ah the government	it(=ref:parallel importing)	[conc:habitual]
20	24 Li	and		
21	25 Cin	restrict		
22	26 Li	not allow the		[conc:habitual]
23	27 Tiff	no no no produce brought from overseas	no produce	[conc:habitual]
24	28 Li	nah		
25	29 Tiff	right?		
26	30 See	ohhoho that's that's ah a part of it	that(=govt not allow prod)	[conc:habitual]
27	31 See	actually it should be ah		
28	32 Li	repeat repeat		[G&S:exhortative:immediate]
29	33 See	actually OK nononot actually maybe a case		
30	34 See	maybe um it should be um eh tax on um	it(=a tax)	[conc:non-hab;necess:obl'gn]
31	35 Li	not not tax (=it is not a tax)	it(=a tax)	[conc:habitual]

Rhetorical Unit		question type	Central Entity	Event Orientation
28	36 Cin	not tax (=it is not a tax)	it(=a tax)	[conc;habitual]
29	37 Li	no tax (is) involved	no tax	[conc;habitual]
30	38 Ken	no tax (is) involved	no tax	[conc;habitual]
31	39 See	no tax (is) involved?	[confirm:enquire:check]	[conc;habitual]
40	See	oh yah		
32	41 Tiff	tax is tariff	tax	[conc;habitual]
33	42 Ken	is it?	[confirm:verify:reassure:referred]	
34	43 Cin	it's a ban	it(=a parallel importing)	[conc;habitual]
35	44 Tiff	it's a rule	it(=parallel importing)	[conc;habitual]
36	45 Cin	ban		
37	46 Tiff	it's like a regulation	it(=parallel importing)	[conc;habitual]
38	47 Cin	(it's a) ban ban that limit the import	(it)(=parallel importing)	[conc;habitual]
39	48 See	oh yeah on the shortages ah		
40	49 Tiff	production stress		
41	50 See	}shortage shortage		
42	51 Tiff	}shortage		
43	52 See	}shortage of ah um product		
53	See	or maybe (it's an) oversupply or something like that	(it)(=parallel importing)	[conc;non-habitual]
44	54 Li	I have the have the dictionary OK	I	[conc;non-habitual]

Report
Commentary

	Rhetorical Unit	question type	Central Entity	Event Orientation
55	Li	is not allow the product	[interactant: speaker]	
56	Li	(it) is the Government not allow the product to come in	(it)(=parallel importing)	[conc;habitual]
57	Tiff	imported freely	[none]	[conc;habitual]
58	Cin	freely		
59	Cin	it's written on here	it	[conc;habitual]
60	Li	how long?	(=definition of parallel importing)	
61	See	say again please	[apprize:vague]	
62	Tiff	government (does) not allow	government	[G&S:exhortative:immediate]
49		incomplete		[conc;habitual]
Text 3				
50	Li	we need the graph already the	we	[conc;non-hab;necessity;inclination]
51	Cin	mhm? ()	[interactants:here&now]	
52	See	why eh?		
66	See	we are not presenting now		
53	Cin	I know!	we	[conc;non-habitual]
68	Cin	must ah must ah keep saying that the price of CDs is for example is twenty dollars	[interactants:here&now]	
69	Cin	and now it's ah		
54	See	for thirty dollars the quantity demanded	the price of CDs	[conc;non-habitual]
55	Cin	ah quantity sup==plied		
56	See	traded		
72	See	== quantity traded will be	quantity traded	[forecast]
73	Cin	one hundred thousand == and == hundred thousand		

	Rhetorical Unit	question type	Central Entity	Event Orientation
58	74 Li	you draw the the once		
59	75 Tiff	hey do we need to == er		
60	76 Li	== no no no shift in the [laughs] no shift!		
61	77 See	supply ah		
62	78 Cin	parallel importing is here	parallel importing	[conc;habitual]
79	Cin	so ()		
62	80 Cin	do do we write dollar?	we [members eco community]	[conc;habitual]
81	Cin	to Q D		
63	82 Tiff	yah		
64	83 Cin	which one? ()		
84	Cin	parallel importing ()		
65	85 See	straight line straight line ah		
86	See	it's so cute eh	it(=diagram)	[conc;non-habitual]
66	87 Tiff	yes it's supposed to be flat	it(=line on graph)	[conc;non-habitual]
88	Tiff	alright?		
67	89 See	why (is it) flat?		
68	90 Tiff	because something er		
91	Tiff	this one's flat [pause]	this one(=line on graph)	[conc;habitual]
69	92 See	ahahaha but it's still very cute	it(=diagram)	[conc;non-habitual]

Rhetorical Unit		question type	Central Entity	Event Orientation
Text 4				
70	Eco lecturer	Economics lecturer with adjacent group: turns 70 -72 Action start off with that demand and supply diagram		
94		the same as we did last week	we	[G&S:exhortative:immediate]
95	student	[]	[interactants:here&now]	[prior]
72	Eco lecturer	[] start with that right		
97		remember I told you to start at thirty dollars	I	[G&S:exhortative:immediate]
98		[in response to student] yeah yeah	[interactant:speaker]	[prior]
99		start there		
100		draw the same sort of what you had before		[G&S:exhortative:immediate]
101		start with that		[G&S:exhortative:immediate]
102		then go on from there		[G&S:exhortative:immediate]
103		here here		
73	Cin	(do) we need to understand that?	we	[conc;non-hab;necessity;inclination]
74	Li	don't need to mention	[interactants:here&now]	
75	Tiff	no need to mention	[none]	
107	Tiff	== not in the question	[none]	
76	Cin	so we just start from the thirty from the thirty price		
77	Li	from the price thirty dollars	we	[conc;habitual]
110	Li	and quantity traded [is] hundred thousand	[members eco community]	
78	Cin	yah just put the parallel importing line	quantity traded	[conc;habitual]
79	Tiff	so without this P right?		[G&S:exhortative:immediate]
113	Tiff	P1 and S1		
80	Cin	no no no need		
		[confirm:verify:reassure]		

	Rhetorical Unit	question type	Central Entity	Event Orientation
81	115 Li	no no ah (pause)		
82	116 Tiff	we have to ask why	we	[con;non-hab:obligation:necessity]
83	117 Li	why what?	[members eco community]	
84	118 Tiff	why		
85	119 Cin	why why they want parallel importing I mean	they(=the government)	[conc;habitual]
86	120 Tiff	what do you mean by 'why'?	you	[conc;non-habitual]
87	121 Cin	why they include?	[interactant:addressee:here&now]	
88	122 See	why does the Government apply parallel importing? why is important for	they(=the government)	[conc;habitual]
89	123 Cin	no why is that? [cataphoric: see mess 119]	that(=they want parallel importing)	[conc;habitual]
90	124 Cin	why does the Government apply parallel importing?	[expression:referring]	
91	125 Tiff	on the CD?	no direct importing on the CD	[conc;habitual]
92	126 Cin	ah		
93	127 See	why ah one of the one of the main thing is to protect == local business	one of the main thing (=reason)	[conc;habitual]
94	128 Tiff	== local business		
95	129 students [collectively]	yeah yes yes yes		
96	130 See	everyone knows that	everyone	[conc;habitual]
			[interactants:addressees:	

Rhetorical Unit		question type	Central Entity	Event Orientation
96	131 Ken	[pause] [] how how they protect?	w/others	
97	132 Tiff	how they protect?	they(=the government)	[conc;habitual]
98	133 Cin	to limit esses		
99	134 Li	to limit imports		
100	135 See	== ah (the government) not not to let them ah import other CDs	(the government)	[conc;habitual]
101	136 Tiff	so if I mean I mean == we		
102	137 Li	but the demo [[we have to discuss]] is not like this	the demo	[conc;non-hab;obligation;necessity]
103	138 Tiff	no no		
103	139 Tiff	why [] [?] restrict ah imports from overseas right?		[conc;habitual]
140	Tiff	so there may be a demand more than a supply	a demand more than a supply	[forecast]
141	Tiff	which the producers can really produce == gloss: so local producers can supply the shortage	the producers [person;other;generalised]	[forecast]
104	142 See	== bu		
105	143 Tiff	so the price will be	the price	[forecast]
106	144 See	but ah parallel importing the main reason to have this is to protect their own producers	the main reason	[conc;habitual]
145	See	so ah I don't think we have to um	I	[con;negative;obligation;necessity]
107	146 Tiff	but how (do) they == how	[interactant;speaker]	
108	147 See	== I mean I mean base base on the parallel import importing we don't have to think about those ah demands	we [members eco community]	[conc;non-hab;obligation;necessity]
109	148 Tiff	yeah OK if you if you what you ahum		

	Rhetorical Unit	question type	Central Entity	Event Orientation
149 Tiff	<p>Generalisation</p> <p>but how they protect?</p> <p>how they protect?</p> <p>cause like [] producers right is like they produce I mean they take the I mean ah the copyright the copyright and (they) produce here you know (they do) not import not import is to produce here therefore um it's produce(d) here then ahm</p> <p>Account</p> <p>no this ah question I'm not ask(ing) you I('m) ask(ing) myself [sts laugh]</p> <p>Commentary</p> <p>that's that's that's the local produce right?</p> <p>Account</p> <p>OK? ()</p> <p>Report</p> <p>but the government should know</p> <p>Avocation</p> <p>we have to have [name of economics lecturer] for ah yes</p> <p>Action</p> <p>put on parallel importing</p>	[apprize:precise:explain:method]	they(=the government)	[conc;habitual]
110 See		[apprize:precise:explain:method]	they(=the government)	[conc;habitual]
111 Li		producers	[conc;habitual]	[conc;habitual]
112 Cin				
113 Li				
154 Li				
114 Cin				
115 Li				
116 See				
158 See				
117 Tiff				
160 Tiff				
118 Cin				
162 Cin				
119 Tiff				
164 Tiff				
120 Li				
121 Cin				

	Rhetorical Unit	question type	Central Entity	Event Orientation
122	167 Tiff	<p>←-----she's coming</p> <p>yeah</p>	she	[conc;non-habit]
123	168 See		[person;nearby]	
124	169 Li	<p>in our graph there's a shortage</p> <p>yeah I know</p> <p>after the effects</p> <p>shortage of ah supplies ==</p> <p>== the effect of parallel importing</p>	a shortage	[conc;habitual]
125	170 Tiff		I	[conc;habitual]
171	Tiff		[interactant:speaker]	
126	172 See			
127	173 Li			
128	174 Tiff	<p>[] what's there?</p> <p>Tiff what else?</p> <p>the shortage is ah in terms of []</p> <p>ah ah [(ve) record(ed) that down</p>		
129	175 Cin			
130	176 Tiff		the shortage	[conc;habitual]
131	177 Cin		I	[prior]
132	178 Tiff	<p>the question the question says three things right?</p> <p>ah the supplies the ah</p> <p>the additional ==</p> <p>== yeah but I ah put this one parallel importing</p>	[interactant:speaker]	
133	179 Tiff			the question
180	Li			
181	Tiff		I	[prior]
			[interactant:speaker]	

Rhetorical Unit		question type	Central Entity	Event Orientation
Economics lecturer + students Text A				
135	182 Eco lecturer	which one are you doing? this one	you	[conc;non-habitual]
136	183 Li		[interactant: addressee: here&now]	
136	184 Li	you know parallel importing? yes	you	[conc;habitual]
137	185 Eco lecturer		[member eco community]	
138	186 Li	is it become a market? yes but we've still got to go off from here	it(=parallel importing)	[conc;habitual]
139	187 Eco lecturer		we	[conc;non-hab:oblig'n:necessity]
138	188 Eco lecturer	we've still got to assume perfectly competitive market structures so we're still using demand and supply curves	we	[conc;non-hab:oblig'n:necessity]
139	189 Eco lecturer		[members eco community]	
140	190 Eco lecturer	so what I said start off at thirty dollars with your demand curve your flat supply curve	we	[conc;non-habitual]
139	191 Eco lecturer		[members eco community]	
139	192 Eco lecturer	then to say well we'll allow when we extend this	(none)	[G&S:exhortive:near:immed.]
139	193 Eco lecturer		we	[forecast]
139	194 Eco lecturer	we have to include an out cover (?) policy OK so you've got to then extend it so you've got to put in a world price which is world price? world world world price here yes right	we	[forecast]
140	195 Eco lecturer		[members eco community]	
140	196 Eco lecturer	world price? world world world price here yes right	we	[conc;non-hab:oblig'n:necessity]
141	198 See		[members eco community]	
142	199 Eco lecturer	[confirm:enquire:check]	[members eco community]	[conc;non-hab:oblig'n:necessity]

	Rhetorical Unit	question type	Central Entity	Event Orientation
142	Eco lecturer	and then what parallel importing does is it is at	parallel importing	[conc;habitual]
201	Eco lecturer	if the world price is lower	the world price	[conc;hypothetical]
202	Eco lecturer	we've got this shortage	we	[conc;hypothetical]
203	Eco lecturer	it's a shortage of product	[members eco community]	[conc;habitual]
204	Eco lecturer	and that's imports	that(=shortage of product)	[conc;habitual]
Text B				
142	Eco lecturer	let me start again	me	
142	Eco lecturer	first of all you might start here at equilibrium	[speaker]	
209	Eco lecturer	and say add on foreign trade	you	[future;hypothetical;probable]
210	Eco lecturer	push the price to whatever the world price is	[member eco community]	
143	Li	yes yes	(none)	[G&S;exhortive;near:immed.]
144	Student (collectively)	ahha	(none)	[G&S;exhortive;near:immed.]
145	Eco lecturer	then if you bring parallel importing into it	you	[conc;hypothetical]
214	Eco lecturer	it pushes the price back up	[members eco community]	[conc;hypothetical]
146	Student (collectively)	hmm	it(=parallel importing)	
147	Eco lecturer	toward equilibrium you see		
148	Students (collectively)	ooh		
149	Eco lecturer	because what it says effectively it says only that amount of imports can come in	that amount of imports	[conc;circum;potent;permiss]
219	Eco lecturer	because it won't allow all of those in	if(=parallel importing policy)	[forecast]
220	Eco lecturer	but it will allow this little bit of imports in	if(=parallel importing policy)	[forecast]
150	Li	ooh		

	Rhetorical Unit	question type	Central Entity	Event Orientation
151	222 Eco lecturer	it bans some of the imports	it(=parallel:importing policy)	[conc;habitual]
223	Eco lecturer	now if it banned all of the imports	it(=parallel:importing policy)	[future;hypothetical]
224	Eco lecturer	it would bring it back up here to equilibrium OK	it(=parallel:importing policy)	[future;hypothetical;probable]
225	Eco lecturer	so you you've got	you	
152	Li	is there still a little shortage?	[member:eco community]	
153	Eco lecturer	yes there will still be a little shortage	a little shortage	[conc;habitual]
228	Eco lecturer	in fact that's what happens	a little shortage	[forecast]
229	Eco lecturer	when they say QF to QD is the amount of imports that come into the economy without any parallel importing	that(=there will still be a little shortage)	[conc;habitual]
153	Eco lecturer	that's just (a) free trade right?	QF to QD	[conc;habitual]
153	Eco lecturer	then when they say we'll only allow this amount of imports in	that(=free trade)	[conc;habitual]
232	Eco lecturer	it creates a shortage from there to there and there to there	we	[forecast]
153	Eco lecturer	so we've got two sides of the shortage a shortage there to there	[members:eco community]	[conc;habitual]
234	Eco lecturer	what does a shortage do?	a shortage	[conc;habitual]
235	Eco lecturer	forces the price up to PW	(a shortage)	[conc;habitual]
153	Eco lecturer	we'll call it parallel importing	we	[forecast]
237	Eco lecturer	whatever substitute you want to use	[members:eco community]	[conc;non-habitual]
238	Eco lecturer	it's the same it's the same diagram as a tariff in lots of senses	[member:eco community]	[conc;habitual]
239	Eco lecturer	but it's not a tax	it(=parallel:importing)	[conc;habitual]

	Rhetorical Unit	question type	Central Entity	Event Orientation
240	Eco lecturer	Account	it(=the shortage)	[conc;habitual]
241	Eco lecturer	Conjecture	free trade	[future;hypothetical]
242	Eco lecturer	Conjecture	you [member eco community]	[future;hypothetical;possible]
243	Eco lecturer	Commentary	we [members eco community]	[conc;non-habitual]
244	Eco lecturer	Commentary	we [members eco community]	[conc;non-habitual]
245	Eco lecturer	Account	half a million shortage	[conc;habitual]
246	Eco lecturer	Recount	that(=half a million shortage)	[prior]
247	Eco lecturer	Reflection	you [member eco community]	[conc;habitual]
248	Eco lecturer	Account	it(=the same sort of diagram)	[conc;habitual]
249	Eco lecturer	Avocation	you [member eco community]	[conc;non-habitual;obligation]

	Rhetorical Unit	question type	Central Entity	Event Orientation
	Text C			
153	250 Eco lecturer	no start again		
	251 Eco lecturer	it continues on from question three here	it(=the question)	[conc;habitual]
153	252 Eco lecturer	it assumes you start with your thirty dollar equilibrium here your steep demand curve and your flat supply curve	it(=the question)	[conc;habitual]
	253 Eco lecturer	add in a lower overseas price twenty dollars	(none)	[G&S:exhortative:immediate]
154	254 Students (collectively)	hmhm		
155	255 Eco lecturer	something like that		
156	256 Students (collectively)	hmhm		
157	257 Eco lecturer	something like that		
158	258 Students (collectively)	hmhm		
159	259 Eco lecturer	then show the effect of parallel importing pushing that price back up to equilibrium	(none)	[G&S:exhortative:immediate]
	260 Eco lecturer	and then it says four effects	it(=effect of parallel importing)	[conc;habitual]
	261 Eco lecturer	and those are the same as a tariff	those(=effects of parallel importing)	[conc;habitual]
	262 Eco lecturer	price goes up	price	[conc;habitual]
	263 Eco lecturer	quantity supplied rises	quantity supplied	[conc;habitual]
	264 Eco lecturer	quantity demanded falls	quantity demanded	[conc;habitual]
	265 Eco lecturer	and imports fall to the right amount	imports	[conc;habitual]

	Rhetorical Unit	question type	Central Entity	Event Orientation
160	266 See	er do you mean that ah um by having parallel importing ah it's possible to push it to the equilibrium price?	[confirm;enquire;check]	[conc;non-habitual]
161	267 Eco lecturer	no no parallel um if we had parallel importing	we [members eco community]	[hypothetical]
162	268 See	hmm		
163	269 Eco lecturer	we would get imports QS to QD	we [members eco community]	[future;hypothetical;probable]
270	Eco lecturer	whatever we did with supply in Australia would be imported	we [members eco community]	[future;hypothetical;probable]
271	Eco lecturer	the gap the shortage		
163	272 Eco lecturer	then when you ban this parallel importing	you [member eco community]	[conc;habitual]
273	Eco lecturer	you cause a shortage of CDs	you [conc;habitual]	
163	274 Eco lecturer	Australians won't produce them	[member eco community] Australians	[forecast]
275	Eco lecturer	the price is too low for them to produce	the price	[conc;habitual]
164	276 See	hmm		
165	277 Eco lecturer	we can't bring them in from overseas	we [members eco community]	[forecast]
278	Eco lecturer	we'll have a shortage illustrated by that gap there and that gap there	we [members eco community]	[forecast]
166	279 See	hmm	[members eco community]	
167	280 Eco lecturer	when we have that shortage	we	
Eco lecturer		that pushes the price back up towards the thirty dollars	[members eco community] that(=shortage)	[forecast]
281	Eco lecturer	now it won't be right up to thirty dollars	it(=price)	[forecast]

	Rhetorical Unit	question type	Central Entity	Event Orientation
282	Eco lecturer	but say we had thirty dollars here twenty dollars here	we [members eco community]	[hypothetical]
283	Eco lecturer	it might push it up to	it(=say we had thirty dollars here twenty	[hypothetical:possible]
168	Cin	twenty five		
169	Eco lecturer	well it says seven dollars here	it(=?media article)	[conc;non-habitual]
286	Eco lecturer	but [it] might push it up to twenty seven dollars something like that	[it](=that shortage)	[hypothetical::possible]
169	Eco lecturer	so a tax or a or a parallel importing ban does the same thing	a tax or a parallel importing ban	[conc;habitual]
288	Eco lecturer	but for different reasons		
289	Eco lecturer	a tax doesn't	a tax	[conc;habitual]
290	Eco lecturer	because it puts an extra charge on the good	it(=a tax)	[conc;habitual]
291	Eco lecturer	a parallel importing ban does it	a parallel importing ban	[conc;habitual]
292	Eco lecturer	because it um causes a shortage of the CDs	a parallel importing ban	
169	Eco lecturer	understand?	[enquire:ask:ellipsis]:	
294	Eco lecturer	you need to draw a really big diagram like that right	you [interactant:addressee:here&now]	[conc;non-habitual:necessity]
170	Li	because we draw [drew] the wrong diagram	we	[prior]
296	Li	we thought is different from the tariff	[interactants:here&now] we	[prior]
171	Eco lecturer	right it's almost exactly the same as the tariff diagram	[interactants:here&now] it(=the parallel importing diagram)	[conc;habitual]
172	Li	ah		
173	Eco lecturer	()starting from where we left off with question three	(?)	
174	Students (collectively)	thankyou thankyou very much		

	Rhetorical Unit	question type	Central Entity	Event Orientation
	Text 5			
175	298 See	parallel importing is ah mainly to ban those um importing		
299	See	that cause(s) um the price to go up	parallel importing	[conc;habitual]
300	See	the thing is to ban	that(=ban importing)	[conc;habitual]
301	Tiff	one question right	the thing	[conc;habitual]
176	302 Tiff	the price is part of world price right?		
303	Tiff	it's...	the price	[confirm;verify;probe;validate]
177	304 Li	no		
178	305 See	no		
306	See	just ==assume that ah		
179	307 Cin	== world price assume that it's twenty	world price	[conc;habitual]
308	Cin	that it's twenty	that(=world price)	[conc;habitual]
180	309 Tiff	so that affects price?	that(=?world price)	[confirm;enquire;check]
181	310 Li	yes		
182	311 Cin	yes		
183	312 See	yup		
184	313 Tiff	and we want to ah import of [into]=Australia, right	we	[conc;non-hab;nec;oblig'n]
185	314 Li	== yes yes	[members eco community]	
186	315 Tiff	so when we restrict (the) er parallel importing	we	[conc;habitual]
316	Tiff	the price dou==bles	[members eco community] the price	[conc;habitual]
187	317 Li	== it's a fixed one	it(=the price)	[conc;habitual]
188	318 Tiff	it will		
189	319 Li	we will impor == all this	we [members eco community]	[forecast]

	Rhetorical Unit	question type	Central Entity	Event Orientation
190	320 Tiff	== all this		
191	321 Li	yes		
192	322 Tiff	so it restrict[s] companies	it(=price)	[conc;habitual]
193	323 Li	it will be a very cheap price	it(=price)	[forecast]
324	Li	and it allow the shortage is ah	it(=cheap price)	[conc;habitual]
325	Li	is ah		
326	Li	yes there is a shortage here	a shortage	[conc;habitual]
327	Cin	so we minimise the shortage right?	we	[conc;habitual]
194	327 Cin		[members eco community]	
195	328 Li	I haven't got the question	I	[conc;non-habitual]
329	Li	is (?the question) ah whether this shortage helps to solve the problem ah?	[interactant:speaker] (?the question)	[conc;habitual]
330	Li	is it manufactured er produced by the local is it? (are products produced by local producers?)		
331	Cin	should be should	it(=products)	[conc;habitual]
196	331 Cin			[conc;non-habitual:obligation]
332	Cin	the the pi is to minimise the shot shortage	the pi(=parallel importing)	[conc;habitual]
333	Cin	and ==		
197	334 Li	indicate by draw[ing] a line		[G&S:non-exhortative]
335	Li	== and they can alri right		
336	Li	they can sell at this price	they(=producers)	[conc;non-habitual:potential]
198	337 Cin	not at this price right?		
199	338 Li	twenty seven		
200	339 Ken	so they can sell	they(=producers)	[conc;non-habitual:potential]
201	340 See	actually it is better like		
202	341 Li	ah		[expression]

	Rhetorical Unit	question type	Central Entity	Event Orientation
203	342 See	I've no idea	I	[conc;habitual]
343	See	but of course it is better	[interactant:speaker]	
344	See	but I don't think er		
345	See	as == she said	[interactant:speaker]	[conc;habitual]
204	346 Ken	()	she	[prior]
205	347 See	well anyway ah parallel	[economics lecturer]	
206	348 Li	parallel		
207	349 See	I see	I	[conc;habitual]
208	350 Li	parallel i	[interactant:speaker]	
209	351 Cin	parallel what?		
352	Cin	um		
210	353 Li	parallel importing the price (will) go up or	the price	[?forecast]
211	354 See	so this one		
355	See	so that		
212	356 Li	it means is after ah the fixing the this parallel importing the price will be go up	the price	[forecast]
357	Li	so (will it be) higher than the real price?	(it)(=the price)	[forecast]
213	358 Tiff	of the == overseas		
214	359 Cin	== overseas		
215	360 Tiff	producer		
216	361 Li	actually ==		
217	362 See	== local producer		

	Rhetorical Unit	question type	Central Entity	Event Orientation
218	363 Li	it's enough to say		
219	364 See	that er after after we fix[ing] the parallel importing almost almost the same as ah ah after we fix[ing] the parallel importing		
365	See	it's not that the price will be ahm will be .. will be a ()	it(=the price)	[forecast]
366	See	so because ah it's just something like ah down the sh shortage shortage	it(=?)	[conc;non-habitual]
220	367 Cin			
221	368 See			
221	369 See	and ah we cut down the import (imports)	we	[conc;habitual]
370	See	and and then it force(s) the price to go up because of this ah shortage of demand so I say the price is higher	[members eco community] it(=cut down imports)	[conc;habitual]
222	371 Tiff		the price	[conc;habitual]
223	372 See	yah the price will be forced to go higher	the price	[forecast]
224	373 Tiff	OK the price increase(s)	the price	[conc;habitual]
374	Tiff	so		
225	375 See	the price will increase	the price	[forecast]

Rhetorical Unit		question type	Central Entity	Event Orientation
226	376 Ken	what's the cost	the cost	[conc;habitual]
227	377 Ken	if the price go up?	the price	[hypothetical]
	378 Tiff	if the price increase right	the price	[hypothetical]
	379 Tiff	what's the effect?	the effect	[conc;habitual]
228	380 See	what's the effect?	the effect	[conc;habitual]
	381 See	ah if the price if the price to be [is] forced to increased	the price	[hypothetical]
	382 See	this is the world world ah world's prices	the world's prices	[conc;habitual]
	383 See	then if the price ah is forced to be increased	the price	[hypothetical]
	384 See	then um the local producers the price reduce to lower price then the local producers reduce the price to a lower price	the local producers	[hypothetical]
	gloss:			
	385 See	er so they can still comcompete with those ah prices	they(= the local producers)	[hypothetical]
	386 See	and ah then this can still protect the local industry	this(=producers can compete)	[hypothetical]
229	387 Cin	sorry?		
230	388 See	[do] I confuse [you]?	I	[conc;non-habitual]
231	389 Cin	I don't know the	[interactant:speaker]	
232	390 Tiff	I confuse	I	[conc;non-habitual]
233	391 Cin	()	[interactant:speaker]	
234	392 Tiff	because of the		
235	393 See	um because it says it says it says		
236	394 Tiff	()		

	Rhetorical Unit	question type	Central Entity	Event Orientation
237	395 See Generalisation	yah it's () so it's perfect competition	it(=perfect competition)	[conc;habitual]
396	See	[is there] anything else?		
238	397 Tiff Avocation	is it [do] we need to relate it to the reality?	we (members eco community)	[conc;non-hab;oblig;n:necessity]
398	Tiff Observation	does this use the figures to show the shortage?	this(=?)	[conc;habitual]
399	Tiff Commentary	what's the price now?	the price	[conc;non-habitual]
400	Tiff Account	what's the parallel importing effects on the price?	the parallel importing effects	[conc;habitual]
239	401 See	mmm?		
240	402 Tiff	the effects on the price		
		[pause]		
		()		
241	403 See	huh?		
404	See	too busy no		
405	See	I see ==	I [interactant:speaker]	[conc;habitual]
242	406 Li Observation	you use (the) demand and supply to like to er mar market	you [member eco community]	[conc;habitual]
243	407 Tiff	what it says right in (a) perfect competitive (competition) in (the) Australia right		
244	408 See	hmhm		
245	409 Tiff Report	there should not be [a] government intervention	government intervention	[conc;non-habitual;?obligation]
246	410 See	yah		
247	411 Tiff Report	why do they still use the same rules ==to illustrate	they [person:economic community]	[conc;non-habitual]
248	412 See	==ah		
249	413 Cin Avocation	don't you need (doing it) to touch on the government interintervention point?	you [member eco community]	[conc;non-hab;necessity;inclination]

	Rhetorical Unit	question type	Central Entity	Event Orientation
262	Eco lecturer	Conjecture		
263	Eco lecturer	Conjecture		
264	Eco lecturer	Conjecture		
265	Eco lecturer	Conjecture		
266	Eco lecturer	Conjecture		
267	Eco lecturer	Conjecture		
268	Eco lecturer	Conjecture		
445	Eco lecturer	Account		
446	Eco lecturer	Account		
447	Eco lecturer	Account		
448	Eco lecturer	Account		
449	Eco lecturer	Account		
450	Eco lecturer	Account		
451	Eco lecturer	Account		
452	Eco lecturer	Account		
453	Eco lecturer	Reflection		
454	Eco lecturer	Reflection		
455	Eco lecturer	Observation		
456	Eco lecturer	Observation		
457	Eco lecturer	Observation		
458	Eco lecturer	Reflection		
459	Eco lecturer	Reflection		
460	Eco lecturer	Account		
461	Eco lecturer	Account		
462	Eco lecturer	Account		

so it's just whatever demand and supply condition [are] overseas
 that the firms might be more efficient ==
 } == ooh
) at producing them
 and have better technology to produce them ==
 } == aah
) or whatever
 so they have a different equilibrium price

now when you show it on this market
 you show it just as below the

this is the demand and supply in Australia you see
 and this world price is set by the demand and supply
 another country
 which is just below this
 now we have this
 because we assume like with the tariff model
 that we're a very small country
 ahha
 alright
 so this small country subsequently tends
 to this horizontal supply curve

	Rhetorical Unit	question type	Central Entity	Event Orientation
	Text E			
269	463 Li	excuse me		
269	464 Li	how about how about this um this this shortage?		
270	465 Eco lecturer	yes		
271	466 Li	is it supplied by the I mean local producer?	it (=this shortage)	[conc;habitual]
272	467 Eco lecturer	no I ==		
273	468 Li	= cause here is er the impo == rt	the import	[conc;habitual]
274	469 Eco lecturer	== local producers tend only to supply that a much that much that there	local producers	[conc;habitual]
	470 Eco lecturer	no that that there		
	471 Eco lecturer	yeah		
	472 Eco lecturer	at that world price the local producers are only s prepared to supply that much there	the local producers	[conc;habitual]
274	473 Eco lecturer	that's the QS	that (=what is pointed to)	[conc;habitual]
	474 Eco lecturer	whereas the at that price this is how much people want to demand	this (=what is pointed to)	[conc;habitual]
	475 Eco lecturer	right?		
	476 Eco lecturer	so you get that shortage	you	[conc;habitual]

	Rhetorical Unit	question type	Central Entity	Event Orientation
275	Account	but part of it is still by imports	[member eco community]	
276	Account	OK but part of it is not filled by either local producers or importers	part of it (=shortage)	[conc;habitual]
277	Account	oh so this studen student shortage [?sudden shortage]	part of it (=shortage)	[conc;habitual]
278	Account	that is?		
279	Account	student shortage [st has difficulty pronouncing word]		
280	Account	yes		
281	Account	and that forces the price up	that (=shortage)	[conc;habitual]
282	Account	ooh		
283	Account	that's why	that (=the shortage)	[conc;habitual]
284	Account	the ban forces the price up	the ban	[conc;habitual]

Rhetorical Unit		question type	Central Entity	Event Orientation
Text F				
283	488 Li	Account	and the ban price and the ban price I mean the parallel importing price is set by the government?	
284	489 Li		or is it == ?	
285	490 Eco lecturer		== no no	
286	491 Eco lecturer		it's ==	[conc:habitual]
287	492 Li		== 's	
288	493 Eco lecturer		not set by anybody ==	
289	494 Li		== it's er	
290	495 Eco lecturer		it's just it's set by the shortage	
291	496 Eco lecturer	Prediction	the price will go up continue to go up until these shortages disappear	[conc:habitual]
292	497 sts		ooh [collectively]	[forecast]
293	498 Eco lecturer		and you'll only be left you'll only be left with imports	[forecast]
294	499 Li		ooh yes	
295	500 Li	Commentary	I know this is er	[conc:non-habitual]
296	501 Li		== yeah	[interactant:speaker]
297	502 Eco lecturer		== right	

	Rhetorical Unit	question type	Central Entity	Event Orientation
293	503 See	[confirm:enquire:check]	this one(=the shortage)	[conc;habitual]
294	504 Eco lecturer		that(=imports)	[forecast]
295	505 Li		that(=imports)	[forecast]
296	506 Eco lecturer		some imports	[conc;habitual]
297	507 See			
508	508 See			
298	509 Li		they/most of the shortages	[conc;habitual]
510	510 Li			
299	511 Eco lecturer		it(=the price)	[forecast]
512	512 Eco lecturer		you	[hypothetical]
513	513 Eco lecturer		[members eco community]	
514	514 Eco lecturer		the equilibrium price of thirty	[conc;habitual]
515	515 Eco lecturer		this(=price)	[hypothetical:probable]
300	516 Li			
301	517 Tiff			
302	518 Eco lecturer			
519	519 Eco lecturer			
302	520 Eco lecturer		that(=the demand)	[hypothetical:probable]
521	521 Eco lecturer		that(=the supply)	[hypothetical:probable]
522	522 Eco lecturer		we	[hypothetical:probable]
303	523 Li		[member eco community]	
304	524 Tiff			

so this one's the shortage?

no no that'll be imports

that will be == imports

== imports some imports are allowed

oh

it means that ah == ()

most of the shortages because they push the price up you know from pri world price to higher rate price

so here just like == all the

== it won't reach these

if you got your price]

let me show you ...

there's there's the equilibrium price of thirty

this is say I don't know um twenty == dollars

== twenty yes

== twenty

OK

now ah

and at twenty dollars that would be the demand and that would be the supply

so we would have that many imports coming in

OK

mm

	Rhetorical Unit	question type	Central Entity	Event Orientation
305	Eco lecturer	then the government says right we're going to say you're not allowed to import this many	you [member eco community]	[conc;habitual]
525	Eco lecturer	say that was um I don't know eighty yeah sixty	that(=imports)	[hypothetical;probable]
526	Eco lecturer	so we had twenty thousand	we	[hypothetical;probable]
527	Eco lecturer	or whatever it happens imports	[members eco community] it(=amount of imports)	[hypothetical]
528	Eco lecturer			
529	Eco lecturer	so you're not allowed to import that many	you	[conc;habitual]
530	Eco lecturer	you're only allowed to import ten	[member eco community] you	[conc;habitual]
531	Li	OK	[member eco community]	
306				
307	Eco lecturer	OK so what we've now got is a shortage here of five and a shortage here of five	we	[conc;non-habitual]
532	Eco lecturer	or whatever it happens to be	[members eco community]	
533	Eco lecturer	so now we've got sixty	it(=a shortage)	[conc;non-habitual]
534	Eco lecturer	(which) are produced locally	we	[conc;non-habitual]
535	Eco lecturer		[members eco community]	
536	Eco lecturer	ten are allowed to be imported	ten	[conc;habitual]
307				
537	Eco lecturer	so that's seventy	that(=seventy)	[conc;non-habitual]
538	Eco lecturer	but we have eighty ==	we	
308	Li	== ooh yes	[members eco community]	
309	Eco lecturer	people want to buy	people	[conc;habitual]
540	Eco lecturer	so what that ==		
541	Eco lecturer	== that		
310	Li			

Rhetorical Unit		question type	Central Entity	Event Orientation
311	Eco lecturer	we're ten short	we	[conc;habitual]
311	Eco lecturer	so that starts to push the price up	[members eco community]	
545	Eco lecturer	and as the price goes up	[that(=shortage)]	[conc;habitual]
546	Eco lecturer	brings more sellers into the	the price	[conc;habitual]
547	Eco lecturer	and takes buyers out	(it=the price going up)	[conc;habitual]
548	Eco lecturer	buyers can't afford this much	(it=the price going up)	[conc;habitual]
549	Eco lecturer	and eventually ==	buyers	[conc;habitual]
312	Li	oooh [another response to strong stress]		
313	Eco lecturer	the price will stop rising	the price=non-generalised	[forecast]
552	Eco lecturer	when you get here to say twenty seven dollars	you	[forecast]
314	Li	OK	[member eco community]	
315	Eco lecturer	because now there's no shortage anymore	no shortage	[conc;habitual]
315	Eco lecturer	because at twenty seven dollars this might be um ah what was it would have be say seventy	this(=domestic supply)	[hypothetical;possible]
556	Eco lecturer	so we've got seventy supplied domestically	we	
557	Eco lecturer	more domestic supply	[members eco community]	[conc;habitual]
558	Eco lecturer	and there's um		

	Rhetorical Unit	question type	Central Entity	Event Orientation	
559 Eco lecturer	<div style="border: 1px solid black; padding: 5px;"> <p>it can't actually</p> <p>it can't be == seventy</p> <p>sixty five</p> <p>that's got to == be sixty five</p> <p>== sixty five sixty five</p> <p>and that's got to be == seventy five</p> <p>seventy five</p> <p>something like that</p> <p>so seventy five is the total amount that people will want</p> </div>				
560 Eco lecturer		Report	it(=seventy supplied domestically)	[conc;non-habitual;circumscribed]	
316 Cin					
317 Eco lecturer		Report		that(=seventy supplied domestically)	[conc;non-habitual;certainty]
318 Cin					
319 Eco lecturer		Report		that(=seventy supplied domestically)	[conc;non-habitual;certainty]
320 Cin					
321 Eco lecturer					
567 Eco lecturer		Account		seventy five	[conc;habitual]

	Rhetorical Unit	question type	Central Entity	Event Orientation
321	Eco lecturer	Account	local suppliers	[conc;habitual]
322	Cin			
323	Eco lecturer	Commentary	ten	[conc;non-habitual]
324	Cin			
325	Li			
326	Eco lecturer	Prediction	price	[forecast]
327	Eco lecturer	Prediction	you	[forecast]
328	Eco lecturer	Prediction	[member eco community]	[forecast]
329	Li		it (=price)	[forecast]
330	Tiff			
331	Eco lecturer	Account	thirty	[conc;habitual]
332	Li			
333	Ken			
334	Li	Commentary	that(=that level there)	[conc;non-habitual]
335	Eco lecturer	Account	a cut	[conc;habitual]
336	Eco lecturer	Account	it(=the seven dollars cuts)	[conc;habitual]
337	Eco lecturer			
338	Eco lecturer	Commentary	(none)	[conc;non-habitual;exhortative]
339	Eco lecturer		this(=where you've got your ban)	[conc;non-habitual]
340	Eco lecturer			

local suppliers are prepared to s-sell
== sixty five

== sixty five

and == ten is coming in from imports
== ten from imports
ooh yes

so price will stop going up
once you've reached that level there
it won't go up to thirty
OK

because thirty is the equilibrium without
any imports
yes yes
mhm

so that's where they're talking about
the seven dollar
and ah
but there's a cut
for the seven dollar cuts is it?

well this one
see this is para(graph)
this is where you've got this is where you've
got your ban

	Rhetorical Unit	question type	Central Entity	Event Orientation
589	Eco lecturer now the seven dollar cuts will be		the seven dollars cuts	[forecast]
590	Eco lecturer if you take that away		you	[non-hab:hypothetical]
591	Eco lecturer you'll go back down to there		[member eco community] you	[forecast]
592	Eco lecturer == do the reverse of that		[member eco community] (none)	[G&S:exhortative:immediate]
336	sts == oooh [collective]			
337	Eco lecturer the absolute reverse of that			
595	Eco lecturer so that's part			
596	Eco lecturer which one are you?	[apprize:precise:nucleus]	which one(=assignment)	[conc;non-habitual]
597	Eco lecturer part			
338	Tiff part one			
339	Eco lecturer part == one			
340	Cin == part one			
341	Eco lecturer well you do this where it pu gets pushed up to twenty seven		you [interactant:addressee here and now]	[conc;non-habitual]
602	Eco lecturer now the people doing part two == will go back down		the people	[forecast]
342	sts == oooh [collective]			
343	Cin I see		I	[conc;non-habitual]
344	Li yes oh yes		[interactant:speaker]	
345	Eco lecturer reverse it		[none]	[G&S:exhortative:immediate]

	Rhetorical Unit	question type	Central Entity	Event Orientation
346	607 See	on the other hand it's just um		
608	See	we put this into it ah I mean parallel importing		
609	See	then ah the local supplier will might supply more	we [members eco community] the local supplier	[conc;habitual] [forecast]
347	610 Li	yes yes because the price is higher	the price=non-generalised	[conc;habitual]
611	Li	that attract ==	that(=the higher price)	[conc;habitual]
348	612 Eco lecturer	== that's right		[conc;non-habitual]
349	613 Li	the producer to == produce more	the producer	[conc;habitual]
350	614 Cin	==produce more		
351	615 Li	and the price is higher	the price	[conc;habitual]
616	Li	and the buyer maybe can't afford it ==	the buyer	[conc;habitual]
352	617 Eco lecturer	== that's right		[conc;non-habitual]
353	618 Cin	and cut off the	[none]	[conc;habitual]
354	619 Eco lecturer	that's right		[conc;non-habitual]

	Rhetorical Unit	question type	Central Entity	Event Orientation
369	Observation		that(=another shortage of ten)	[conc;habitual]
370				
642	Account		the price	[conc;habitual]
643	Account		the producer	[conc;habitual]
644				
645				
646				
371	Commentary		the price	[conc;non-habitual]
372				
648	Account		they(=producers)	[conc;habitual]
649				
373				
374	Observation		the price	[conc;habitual]
650				
651			the buyer	
652				
375	Prediction			[forecast]
376				
377				
654				
378				
655				
379				
656				
380				
657				
381	Action			[G&S:exhortative:immediate]
658				
382				[G&S:exhortative:immediate]
659				
660				[G&S:exhortative:immediate]
661				[G&S:exhortative:immediate]
662				
383				[G&S:exhortative:immediate]
663				
Li				

that's shor another shortage of == ten
ten yes

because [of] the price (is) low
} so the producer can == produce more
} == produce more

ah no no no because of this so the price [is]
now twenty seven

so they tend to produce more
hmm

on the other hand because the price is twenty seven

so the == buyer
== the
will not == [get] buy ah
== ooo not not
} == ah not the buy ==
== not the ef
aah

explain to me
you explain to me
[sts guffaw]
you explain to me
you you mo you get you get [give]more
knowledge to me
just some ideas
get [give] more knowledge to me ()

	Rhetorical Unit	question type	Central Entity	Event Orientation
384	664 Tiff	at first you (have to) explain the shortage right	you	[conc;obligation;necessity]
385	665 Tiff	so you can say == ()	[interactant:addresssee: here&now]	
386	666 See	OK		
387	667 Li	no no no we still haven't	we	[prior]
388	668 Li	() OK?	[interactants:here&now]	
389	669 Li	this is this is not produced by anyone	this(=this shortage)	[conc;habitual]
390	670 Li	so the the price will push up	the price	[forecast]
391	671 Tiff	to twenty seven		
392	672 Li	to twenty seven no?		
393	673 Tiff	shor-tage		
394	674 Li	ah cause because this the the		
395	675 Cin	the buyer		
396	676 Li	yeh because the supply because the eh price is higher	the price	[conc;habitual]
397	677 Li	the supplier will (intro)produce more	the supplier	[forecast]
398	678 Cin	produce more		
399	679 Li	and the the price is higher	the price	[conc;habitual]
400	680 Li	and the demand is less	the demand	[conc;habitual]
401	681 Li	because the buyer maybe can't afford	the buyer	[conc;non-hab;probable]
402	682 Li	and [the buyer is] not willing to buy at that higher price	(the buyer)	[conc;habitual]
403	683 Li	so [lower demand] push[es] up the price higher to here	(lower demand)	[conc;habitual]
404	684 Li	er and just feel as agree with the import		
405	685 Li	that notion they just		

Rhetorical Unit		question type	Central Entity	Event Orientation
395	686 Ken	Account		
		why [do] they want less?	they(=buyers)	[conc;habitual]
396	687 Li	Report		
		because the price is higher	the price	[conc;non-habitual]
		if the price (is) higher ==	the price	[conc;non-habitual]
397	689 Tiff	Avocation		
		== you you ar you have to buy nuh? [laughs]	you	[conc;non-hab;obligation;necesssity]
398	690 Li		[member eco community]	
		maybe [sts laugh]		
398	691 Li	Account		
		there's still there's still some somebody would like to buy hot that more no	somebody	[conc;habitual]
399	692 See	Prediction		
		oh it will be less demand	it(=less demand)	[forecast]
400	693 Tiff			
		less?		
401	694 Li			
		less no more [laughs]		
402	695 See	Reflection		
		aah you're right	you	[conc;habitual]
402	696 See	Prediction		
		nothing will have still [constant] demand unless ar even even even coffee	[interactant:addressee]	
			nothing	[forecast]
403	697 Li	Reflection		
		yes you know	you	[conc;habitual]
		[sts laugh]	[interactant:addressee]	
404	698 Cin	Generalisation		
		but but coffee		
405	699 Li	Generalisation		
		coffee have a constant demand	coffee	[conc;habitual]
406	700 See	Reflection		
		yah I know	I	[conc;habitual]
701	See		[interactant:speaker]	
		that's right that's right		
702	See			
		so it's		
703	See	Reflection		
		[sts laugh] I know	I	[conc;habitual]
704	See	Generalisation		
		it's a very == elastic demand	[interactant:speaker]	
407	705 Li		it(=elastic demand)	[conc;habitual]
		== elastic demand [sts laugh]		
408	706 See			
		elastic demand		
409	707 Li	Avocation		
		therefore you have to buy	you	[conc;non-hab;obligation;necesssity]
			[member eco community]	

	Rhetorical Unit	question type	Central Entity	Event Orientation
410	708 Cin			
		they have to buy!	they	[conc;non-hab:obligation;necessity]
411	709 Li			
		I want to say there's er one thing	one thing	[expression]
		there's a zero demand	a zero demand	[conc;habitual]
		[do] you know what?	you	[conc;habitual]
412	712 See			
		what?	[interactant:addressee]	
413	713 Li			
		[do you] know who has that?	(you)	[conc;habitual]
		See! [sts laugh]	[interactant:addressee]	
		[inaudible repartee]		

Appendix B

Transitivity and Ergativity Analysis

**Student – student discussion
Text 1**

turn	mes	Process type					
1	1	Material		<i>can</i>	<i>someone</i>	<i>draw</i>	<i>the diagram</i>
			Transitive	Pr...	Actor	Material	Goal
			Ergative		Agent		Medium
3	3	Material		<i>/</i>	<i>lost</i>	<i>my digram</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
3	5	Relational		<i>/</i>	<i>don't seem to have</i>	<i>it</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	

**Student – students discussion
Text 2**

turn	mess	Process type					
6	9	Material		<i>[do</i>	<i>we</i>	<i>do]</i>	<i>all these questions?</i>
			Transitive	Pr...	Actor	Material	Goal
			Ergative		Agent		Medium
7	10	Material		<i>we</i>		<i>pick and choose</i>	
			Transitive	Actor		Pr:Material	
			Ergative	Medium			
8	11	Material		<i>we</i>		<i>pick and choose</i>	
			Transitive	Actor		Pr:Material	
			Ergative	Medium			
9	12	Verbal		<i>we</i>		<i>discuss</i>	<i>together</i>
			Transitive	Sayer		Pr:Verbal	Circ:manner
			Ergative	Medium			Circ:manner
9	13	Existential		<i>there</i>	<i>is</i>	<i>a ban</i>	<i>on the CDs</i>
			Transitive		Pr:Existential	Existent	Circ:location
			Ergative			Medium	Circ:location
16	20	Verbal		<i>we</i>		<i>better answer</i>	
			Transitive	Sayer		Pr:Verbal	
			Ergative	Medium			
16	21	Relational		<i>what</i>		<i>'s</i>	<i>parallel importing?</i>
			Transitive	Value		Pr:Relational	Token
			Ergative	Range			Medium
18-21	23-27	Relational		<i>it</i>	<i>is</i>	<i>the government restrict produce bought from overseas</i>	
			Transitive	Token		Pr:Relational	Value
			Ergative	Medium			Range
24	30	Relational		<i>that(=government restricting imports)</i>		<i>'s</i>	<i>part of it</i>
			Transitive	Token		Pr:Relational	Value
			Ergative	Medium			Range
26	34	Relational		<i>[it]</i>		<i>[should] be</i>	<i>[a] tax</i>
			Transitive	[Token]		Pr:Relational	Value
			Ergative	[Medium]			Range
27	35	Relational		<i>[it]</i>		<i>[is] not</i>	<i>tax</i>
			Transitive	[Token]		Pr:Relational	Value
			Ergative	[Medium]			Range

Student – student discussion
Text 2/2

turn	mes	Process type				
28	36	Relational		<i>[it]</i>	<i>[is] not</i>	<i>[a] tax</i>
			Transitive	[Token]	Pr:Relational	Value
			Ergative	[Medium]		Range
29	37	Relational		<i>no tax</i>	<i>[is] involved</i>	
			Transitive	Token	Pr:Relational	
			Ergative	Medium		
30	38	Relational		<i>no tax</i>	<i>[is] involved</i>	
			Transitive	Token	Pr:Relational	
			Ergative	Medium		
31	39	Relational		<i>no tax</i>	<i>[is] involved?</i>	
			Transitive	Token	Pr:Relational	
			Ergative	Medium		
32	41	Relational		<i>tax</i>	<i>is</i>	<i>tariff</i>
			Transitive	Token	Pr:Relational	Value
			Ergative	Medium		Range
33	42	Relational		<i>is</i>	<i>it?</i>	
			Transitive	Pr:Relational	Token	
			Ergative		Medium	
34	43	Relational		<i>it</i>	<i>'s</i>	<i>a ban</i>
			Transitive	Token	Pr:Relational	Value
			Ergative	Medium		Range
35	44	Relational		<i>it</i>	<i>'s</i>	<i>a rule</i>
			Transitive	Token	Pr:Relational	Value
			Ergative	Medium		Range
37	46	Relational		<i>it</i>	<i>'s</i>	<i>like a regulation</i>
			Transitive	Token	Pr:Relational	Value
			Ergative	Medium		Range
38	47	Relational		<i>[it]</i>	<i>['s]</i>	<i>[a] ban that limit the import</i>
			Transitive	[Token]	Pr:Relational	Value
			Ergative	[Medium]		Range

**Student – student discussion
Text 2/3**

turn	mes	Process type				
43	53	Relational		<i>[it]</i>	<i>['s]</i>	<i>[an] oversupply or something like that</i>
			Transitive	[Token]	Pr:Relational	Value
			Ergative	[Medium]		Range
44	54	Relational		<i>/</i>	<i>have</i>	<i>the dictionary OK</i>
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed
			Ergative	Medium		Range
44	56	Relational		<i>[it]</i>	<i>is</i>	<i>the Government [that does] not allow the product to come in</i>
			Transitive	[Token]	Pr:Relational	Value
			Ergative	[Medium]		Range
46	59	Material		<i>it</i>	<i>'s written</i>	<i>on here</i>
			Transitive	Actor	Pr:Material	Circ:location
			Ergative	Medium		Circ:location
47	60	Relational		<i>how long</i>	<i>[is]</i>	<i>it?</i>
			Transitive	Attribute	[Pr:Relational]	[Carrier]
			Ergative	Range		[Medium]
49	62	Material		<i>[the] government</i>		<i>[does] not allow</i>
			Transitive	Actor	Pr:Material	
			Ergative	Medium		

**Student – student discussion
Text 3**

turn	mes	Process type						
50	63	Mental		<i>we need the graph already</i>				
			Transitive	Senser	Pr:Mental	Range	Circ:temporal	
			Ergative	Medium		Range	Circ:temporal	
52	65	Mental		<i>why do we need the graph?</i>				
			Transitive	Circ	Pr...	Senser	Mental	Phenomenon
			Ergative	Circ		Medium		Range
52	66	Material		<i>we are not presenting now</i>				
			Transitive	Actor	Pr:Material	Circ:temporal		
			Ergative	Medium		Circ:temporal		
53	67	Mental		<i>I know</i>				
			Transitive	Senser		Pr:Mental		
			Ergative	Medium				
53	68	Relational		<i>the price of CDs is twenty dollars</i>				
			Transitive	Token	Pr:Relational	Value		
			Ergative	Medium		Range		
54-56	70-72	Relational		<i>for thirty dollars the quantity traded will be one hundred thousand</i>				
			Transitive	Token	Pr:Relational	Value		
			Ergative	Medium		Range		
62	78	Relational		<i>parallel importing is here</i>				
			Transitive	Token	Pr:Relational	Circ:location		
			Ergative	Medium		Circ:location		
62	80	Material		<i>do we write dollar?</i>				
			Transitive	Pr...	Actor	Material	Goal	
			Ergative		Agent		Medium	
66	87	Relational		<i>it 's supposed to be flat</i>				
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
67	89	Relational		<i>why is it flat?</i>				
			Transitive	Circumstance	Pr:Relational	Carrier	Attribute	
			Ergative	Circumstance		Medium	Range	
68	91	Relational		<i>this one 's flat</i>				
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
69	92	Relational		<i>it 's very cute</i>				
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		

**Student – student discussion
Text 4**

turn	mes	Process type							
73	104	Mental		<i>we</i>		<i>need to understand</i>		<i>that?</i>	
			Transitive	Senser		Pr:Mental		Phenomenon	
			Ergative	Medium				Range	
74	105	Verbal		<i>[we]</i>		<i>don't need to mention</i>			
			Transitive	[Sayer]		Pr:Verbal			
			Ergative	[Medium]					
76	108	Material		<i>we</i>		<i>start</i>		<i>from the thirty price</i>	
			Transitive	Actor		Pr:Material		Circ:location	
			Ergative	Medium				Circ:location	
77	110	Relational		<i>quantity traded</i>		<i>[is]</i>		<i>hundred thousand</i>	
			Transitive	Token		Pr:Relational		Value	
			Ergative	Medium				Range	
78	111	Material		<i>[you]</i>		<i>put</i>		<i>the parallel importing line</i>	
			Transitive	[Actor]		Pr:Material		Goal	
			Ergative	[Agent]				Medium	
79	112	Relational		<i>[is]</i>		<i>[it]</i>		<i>without this P right?</i>	
			Transitive	Pr:Relational		[Token]		Circ:manner	
			Ergative			[Medium]		Circ:manner	
82	116	Verbal		<i>we</i>		<i>have to ask</i>		<i>why</i>	
			Transitive	Sayer		Pr:Verbal		Verbiage	
			Ergative	Medium				Range	
85	119	Mental		<i>why</i>	<i>[do]</i>		<i>they</i>	<i>want</i>	<i>parallel importing?</i>
			Transitive	Circ	Pr...		Senser	Mental	Phenomenon
			Ergative	Circ			Medium		Range
86	120	Mental		<i>what</i>	<i>do</i>		<i>you</i>	<i>mean</i>	<i>by why?</i>
			Transitive	Value	Pr...		Assigner	Rel: Id	Token
			Ergative	Range			Agent		Medium

**Student – student discussion
Text 4/2**

turn	mes	Process type							
87	121	Material		<i>why</i>	<i>[do]</i>	<i>they(=the government)</i>	<i>include (=use parallel importing)?</i>		
			Transitive	Circ	Pr...	Actor	Material		
			Ergative	Circ		Medium			
89	123	Relational		<i>why</i>	<i>is</i>	<i>that (=direct importing of CDs)?</i>			
			Transitive	Circumstance	Pr:Relational		Token		
			Ergative	Circumstance		Agent			
89	124	Existential		<i>why</i>	<i>isn't</i>	<i>there</i>	<i>direct importing</i>	<i>on the CD?</i>	
			Transitive	Circ	Pr...		Existential	Circ:location	
			Ergative	Circ		Medium	Circ:location		
92	127	Relational		<i>one of the main thing</i>	<i>is to protect</i>	<i>local business</i>			
			Transitive	Token	Pr:Relational		Value		
			Ergative	Medium		Range			
95	130	Mental		<i>everyone</i>	<i>knows</i>	<i>that</i>			
			Transitive	Senser	Pr:Mental		Phenomenon		
			Ergative	Medium		Range			
96	131	Material		<i>how</i>	<i>[do]</i>	<i>they</i>	<i>protect?</i>		
			Transitive	Circumstance	Pr...	Actor	Material		
			Ergative	Circumstance		Medium			
97	132	Material		<i>how</i>	<i>[do]</i>	<i>they</i>	<i>protect?</i>		
			Transitive	Circumstance	Pr...	Actor	Material		
			Ergative	Circumstance		Medium			
100	135	Material		<i>[the government]</i>	<i>[does] not let</i>	<i>them</i>	<i>import</i>	<i>other CDs</i>	
			Transitive	[Initiator]	Pro...	Actor	Material	Goal	
			Ergative	[Agent 1]		Agent 2		Medium	
103	139	Material		<i>why</i>	<i>[do]</i>	<i>[they]</i>	<i>?restrict</i>	<i>imports</i>	<i>from overseas</i>
			Transitive	Circ	Pr...	[Actor]	Material	Goal	Circ
			Ergative	Circ		[Agent]		Medium	Circ
103	140	Existential		<i>there</i>	<i>may be</i>	<i>a demand</i>	<i>more than supply</i>		
			Transitive			Existent	Circ:comparison		
			Ergative			Medium	Circ:comparison		

Student – student discussion
Text 4/3

turn	mes	Process type						
103	141	Material		<i>the producers</i>		<i>can really produce</i>		
			Transitive	Actor	Pr:Material			
			Ergative	Medium				
106	144	Material		<i>parallel importing the main reason to have this</i>		<i>is to protect</i>	<i>their own producers</i>	
			Transitive	Actor	Pr:Material	Goal		
			Ergative	Agent		Medium		
108	147	Mental		<i>base[d] on (the) parallel importing we</i>		<i>don't have to think</i>	<i>about those demands</i>	
			Transitive	Senser	Pr:Mental	?Phenomenon		
			Ergative	Medium		Range		
109	149	Material		<i>how</i>	<i>[do]</i>	<i>they</i>	<i>protect?</i>	
			Transitive	Circumstance	Pr...	Actor	Material	
			Ergative	Circumstance		Medium		
110	150	Material		<i>how</i>	<i>[do]</i>	<i>they</i>	<i>protect?</i>	
			Transitive	Circumstance	Pr...	Actor	Material	
			Ergative	Circumstance		Medium		
111 - 112	151 - 152	Material		<i>producers</i>		<i>take</i>	<i>the copyright</i>	
Transitive	Actor		Pr:Material	Goal				
Ergative	Agent			Medium				
113	154	Material		<i>[they]</i>		<i>produce</i>	<i>here</i>	
			Transitive	[Actor]	Pr:Material	Circ:location		
			Ergative	[Medium]		Circ:location		
114	155	Material		<i>[they]</i>		<i>[do] not import</i>		
			Transitive	[Actor]	Pr:Material			
			Ergative	[Medium]				
115	156	Material		<i>not import</i>		<i>is to produce</i>	<i>here</i>	
			Transitive	Actor	Pr:Material	Circ:location		
			Ergative	Medium		Circ:location		
116	157	Material		<i>it</i>		<i>'s produce[d]</i>	<i>here</i>	
			Transitive	Actor	Pr:Material	Circ:location		
			Ergative	Medium		Circ:location		

Student – student discussion
Text 4/4

turn	mes	Process type							
117	159	Verbal		<i>I</i>		<i>'m not asking</i>		<i>you</i>	
			Transitive	Sayer		Pr:Verbal		Receiver	
			Ergative	Medium				Beneficiary	
117	160	Verbal		<i>I</i>		<i>[m] ask[ing]</i>		<i>myself</i>	
			Transitive	Sayer		Pr:Verbal		Receiver	
			Ergative	Medium				Beneficiary	
118	161	Relational		<i>that</i>	<i>'s</i>	<i>the local produce right?</i>			
			Transitive	Token	Pr:Relational		Value		
			Ergative	Medium			Range		
119	163	Mental		<i>the government</i>			<i>should know</i>		
			Transitive	Senser			Pr:Mental		
			Ergative	Medium					
119	164	Relational		<i>we</i>	<i>have to have</i>	<i>[economic lecturer]</i>	<i>for this</i>		
			Transitive	Carrier:Poss	Pr:Relational		Attribute	Circ	
			Ergative	Agent			Medium	Circ	
121	166	Material		<i>put on</i>			<i>parallel importing</i>		
			Transitive	Pr:Material			Goal		
			Ergative				Medium		
122	167	Material		<i>she</i>			<i>'s coming</i>		
			Transitive	Actor			Pr:Material		
			Ergative	Medium					
124	169	Existential		<i>in our graph there</i>		<i>'s</i>	<i>a shortage</i>		
			Transitive			Pr:Existential		Existent	
			Ergative					Medium	
125	170	Mental		<i>I</i>			<i>know</i>		
			Transitive	Senser			Pr:Mental		
			Ergative	Medium					
128	174	Relational		<i>what</i>	<i>'s</i>	<i>there</i>			
			Transitive	Token	Pr:Relational		Circ:location		
			Ergative	Medium			Circ:location		
129	175	Existential		<i>what else</i>		<i>[is</i>	<i>there?]</i>		
			Transitive	Existent		[Pr:Existential]			
			Ergative	Medium					
129	176	Relational		<i>the shortage</i>			<i>is</i>	<i>in terms of ()</i>	
			Transitive	Token		Pr:Relational		Value	
			Ergative	Medium				Range	

Student – student discussion
Text 4/5

turn	mes	Process type					
131	177	Material		<i> / 've recorded that down</i>			
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
132	178	Verbal		<i> the question says three things right?</i>			
			Transitive	Sayer	Pr:Verbal	Verbiage	
			Ergative	Medium		Range	
143	181	Material		<i> / put this one parallel importing</i>			
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Medium		Range	

**Economics lecturer – student discussion
Text A**

turn	mes	Process type					
135	182	Material		<i>which one are you doing?</i>			
			Transitive	Goal	Pr...	Actor	Material
			Ergative	Medium		Agent	
136	184	Mental		<i>you know parallel importing?</i>			
			Transitive	Senser	Pr:Mental	Phenomenon	
			Ergative	Medium		Range	
138	186	Relational:Id		<i>is [does] it become a market?</i>			
			Transitive	Pro...	Carrier	Rel:Att	Attribute
			Ergative		Medium		Range
139	187	Material		<i>we 've still got to go off from here</i>			
			Transitive	Actor	Pr:Material	Circ:location	
			Ergative	Medium		Circ:location	
139	188	Mental		<i>we 've still got to assume perfectly competitive market structures</i>			
			Transitive	Senser	Pro:Mental	Phenomenon	
			Ergative	Medium		Range	
139	189	Material		<i>we 're still using demand and supply curves</i>			
			Transitive	Actor	Pro:Material	Goal	
			Ergative	Agent		Medium	
139	190	Material		<i>[you] start off at thirty dollars with your demand curve</i>			
			Transitive	[Actor]	Pro:Material	Circ 1	Circ 2
			Ergative	[Medium]		Circ 1	Circ 2
139	192	Material		<i>we 'll allow</i>			
			Transitive	Actor	Pro:Material		
			Ergative	Medium			
139	193	Material		<i>we extend this</i>			
			Transitive	Actor	Pro:Material	Goal	
			Ergative	Agent		Medium	
139	194	Material		<i>we have to include an outcover policy</i>			
			Transitive	Actor	Pro:Material	Goal	
			Ergative	Agent		Medium	

**Economics lecturer – student discussion
Text A/2**

turn	mes	Process type					
139	195	Behavioural		<i>you</i>	<i>'ve got to then extend</i>	<i>it</i>	
			Transitive	Behaver	Pro:Behavioural	Range	
			Ergative	Medium		Range	
139	196	Material		<i>you</i>	<i>'ve got to put in</i>	<i>a world price</i>	<i>here</i>
			Transitive	Actor	Pro:Material	Goal	Circ
			Ergative	Agent		Medium	Circ
142	200	Material		<i>what parallel importing</i>		<i>does is</i>	
			Transitive	Actor		Pro:Material	
			Ergative	Medium			
142	201	Relational		<i>the world price</i>	<i>is</i>	<i>lower</i>	
			Transitive	Carrier	Pro:Relational	Attribute	
			Ergative	Medium		Range	
142	202	Relational		<i>we</i>	<i>'ve got</i>	<i>this shortage</i>	
			Transitive	Carrier:Possessor	Pro:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
142	203	Relational		<i>it</i>	<i>'s</i>	<i>a shortage of product</i>	
			Transitive	Token	Pro:Relational	Value	
			Ergative	Medium		Range	
142	204	Relational		<i>that</i>	<i>'s</i>	<i>imports</i>	
			Transitive	Token	Pro:Relational	Value	
			Ergative	Medium		Range	

**Economics lecturer – student discussion
Text B**

turn	mes	Process type					
142	207	Material		<i>let me start again</i>			
			Transitive	Pro...	Actor	Material	Circ:Extent
			Ergative		Medium		
142	208	Material		<i>you might start here at equilibrium</i>			
			Transitive	Actor	Pro:Material	Circ:location	
			Ergative	Medium		Circ:location	
142	209	Material		<i>[you] add on foreign trade</i>			
			Transitive	[Actor]	Pro:Material	Goal	
			Ergative	[Agent]		Medium	
142	210	Material		<i>[you] push the price [[to whatever the world price is]]</i>			
			Transitive	[Actor]	Pro:Material	Goal	
			Ergative	[Agent]		Medium	
145	213	Material		<i>you bring parallel importing into it</i>			
			Transitive	Actor	Pro:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
145	214	Material		<i>it pushes the price back up</i>			
			Transitive	Actor	Pro:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
149	218	Material		<i>only that amount of imports can come in</i>			
			Transitive	Actor	Pro:Material	Circ:location	
			Ergative	Medium		Circ:location	
149	219	Material		<i>it won't allow all of those in</i>			
			Transitive	Actor	Pro:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
149	220	Material		<i>it will allow this little bit of imports in</i>			
			Transitive	Actor	Pro:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
151	222	Material		<i>it bans some of the imports</i>			
			Transitive	Actor	Pro:Material	Goal	
			Ergative	Agent		Medium	

**Economics lecturer – student discussion
Text B/2**

turn	mes	Process type						
151	223	Material		<i>it</i>	<i>banned</i>	<i>all of the imports</i>		
			Transitive	Actor	Pro:Material	Goal		
			Ergative	Agent		Medium		
151	224	Material		<i>it(=banned imports)</i>	<i>would bring</i>	<i>it(=price)</i>	<i>back up here to equilibrium OK</i>	
			Transitive	Actor	Pro:Material	Goal	Circumstance	
			Ergative	Agent		Medium	Circumstance	
151	225	Relational		<i>you</i>	<i>'ve got</i>			
			Transitive	Carrier:Possessor		Pro:Relational		
			Ergative	Medium				
153	227	Existential		<i>there</i>	<i>will still be</i>	<i>a little shortage</i>		
			Transitive		Pro:Existential	Existent		
			Ergative			Medium		
153	228	Relational		<i>that</i>	<i>is</i>	<i>[[what happens]]</i>		
			Transitive	Token	Pro:Relational	Value		
			Ergative	Medium		Range		
153	229	Relational		<i>QF to QD</i>	<i>is</i>	<i>the amount of imports that come into the economy without any parallel importing</i>		
			Transitive	Token	Pro:Rel	Value		
			Ergative	Medium		Range		
153	230	Relational		<i>that</i>	<i>'s</i>	<i>just a free trade right?</i>		
			Transitive	Carrier	Pro:Relational	Attribute		
			Ergative	Medium		Range		
153	231	Material		<i>we</i>	<i>'ll only allow</i>	<i>this amount of imports</i>	<i>in</i>	
			Transitive	Actor	Pro:Material	Goal	Circ	
			Ergative	Agent		Medium	Circ	
153	232	Material		<i>it</i>	<i>creates</i>	<i>a shortage</i>	<i>from there to there and there to there</i>	
			Transitive	Actor	Pro:Material	Goal	Circumstance	
			Ergative	Agent		Medium	Circumstance	
153	233	Relational		<i>we</i>	<i>'ve got</i>	<i>two sides of the shortage</i>	<i>there to there</i>	
			Transitive	Carrier:Poss	Pro:Rel	Attribute:Possessed	Circumstance	
			Ergative	Medium		Range	Circumstance	

**Economics lecturer – student discussion
Text B/3**

turn	mes	Process type					
153	234	Material		<i>what</i>	<i>does</i>	<i>a shortage</i>	<i>do?</i>
			Transitive	Circ:role	Pro...	Actor	Material
			Ergative	Circ:role		Medium	
153	235	Material		<i>[a shortage]</i>	<i>forces</i>	<i>the price</i>	<i>up to PW</i>
			Transitive	[Actor]	Pro:Material	Goal	Circumstance
			Ergative	[Agent]		Medium	Circumstance
153	236	Verbal		<i>we</i>	<i>'ll call</i>	<i>it</i>	<i>parallel importing</i>
			Transitive	Sayer	Pr:Verbal	Verbiage	Range
			Ergative	Medium		Range	Range
153	237	Material		<i>whatever substitute</i>	<i>you</i>	<i>want to use</i>	
			Transitive	Wh-complement	Actor	Pr:Material	
			Ergative	Medium	Agent		
153	238	Relational		<i>it</i>	<i>'s</i>	<i>the same diagram</i>	<i>as a tariff in lots of senses</i>
			Transitive	Token	Pr:Rel	Value	Circumstance
			Ergative	Medium		Range	Circumstance
153	239	Relational		<i>it</i>	<i>'s</i>	<i>not a tax</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium			
153	240	Relational		<i>it</i>	<i>'s</i>	<i>the shortage that forces the price up</i>	
			Transitive	Token	Pr:Rel	Value	
			Ergative	Medium			
153	241	Existential		<i>there</i>	<i>was</i>	<i>just free trade</i>	
			Transitive		Pr:Existential	Existent	
			Ergative				
153	242	Relational		<i>you</i>	<i>might have</i>	<i>a hundred thousand CDs two hundred thousand or a million being imported every years</i>	
			Transitive	Carrier:Poss	Pr:Relational	Attribute:Possessed	
			Ergative	Medium			
153	243	Material		<i>we</i>	<i>start</i>	<i>with a million</i>	
			Transitive	Actor	Pr:Material	Circumstance	
			Ergative	Medium			

**Economics lecturer – student discussion
Text B/4**

turn	mes	Process type						
153	244	Material		<i>we can import</i>		<i>half a million</i>		
			Transitive	Actor	Pr:Material	Goal		
			Ergative	Agent		Medium		
153	245	Existential		<i>there</i>	<i>'s</i>	<i>half a million shortage represented by that distance and that distance</i>		
			Transitive		Pr:Existential	Existent		
			Ergative			Medium		
153	246	Material		<i>that</i>	<i>'s forced</i>	<i>the price</i>	<i>up too</i>	
			Transitive	Actor	Pr:Material	Goal	Circumstance	
			Ergative	Agent		Medium	Circumstance	
153	247	Material		<i>to eliminate the shortage so you</i>		<i>get</i>	<i>to here</i>	
			Transitive	Actor			Pr:Material	Circ:location
			Ergative	Medium				Circ:location
153	248	Relational		<i>it</i>	<i>'s</i>	<i>the same sort of diagram as the tariff diagram</i>		
			Transitive	Token	Pr:Relational	Value		
			Ergative	Medium		Range		
153	249	Material		<i>you</i>		<i>'ve got to add</i>		
			Transitive	Actor			Pr:Material	
			Ergative	Medium				

**Economics lecturer – student discussion
Text C**

turn	mes	Process type				
153	250	Material		<i>start</i>		<i>again</i>
			Transitive	Pr:Material		Circ:extent:temporal
			Ergative			Circ:extent:temporal
153	251	Material		<i>it(=question)</i>	<i>continues</i>	<i>on from question three here</i>
			Transitive	Actor	Pr:Material	Circumstance
			Ergative	Medium		Circumstance
153	252	Material		<i>you</i>	<i>start</i>	<i>with your thrity dollar equilibrium here your steep demand curve and your flat supply curve</i>
			Transitive	Actor	Pr:Material	Circumstance:accompaniment
			Ergative	Medium		Circumstance:accompaniment
153	253	Material		<i>[you]</i>	<i>add in</i>	<i>a lower overseas price twenty dollars</i>
			Transitive	[Actor]	Pr:Material	Goal
			Ergative	[Agnent]		Medium
159	259	Material		<i>[you]</i>	<i>show</i>	<i>the effect of parallel importing pushing that price back up to equilibrium</i>
			Transitive	[Actor]	Pr:Material	Goal
			Ergative	[Agent]		Medium
159	260	Verbal		<i>it</i>	<i>says</i>	<i>four effects</i>
			Transitive	Sayer	Pr:Verbal	Verbiage
			Ergative	Medium		Range
159	261	Relational		<i>those</i>	<i>are</i>	<i>the same as a tariff</i>
			Transitive	Token	Pr:Relational	Value
			Ergative	Medium		Range
159	262	Material		<i>price</i>	<i>goes up</i>	
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
159	263	Material		<i>quantity supplied</i>	<i>rises</i>	
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
159	264			<i>quantity demanded</i>	<i>falls</i>	
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
159	265	Material		<i>imports</i>	<i>fall</i>	<i>to the right amount</i>
			Transitive	Actor	Pr:Material	Circ:extent
			Ergative	Medium		Circ:extent

**Economics lecturer – student discussion
Text C/2**

turn	mes	Process type					
161	267	Relational		<i>we</i>	<i>had</i>	<i>parallel importing</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
163	269	Material		<i>we</i>	<i>would get</i>	<i>imports QS to QD</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
163	270	Material		<i>whatever we did with supply in Australia</i>		<i>would be imported</i>	
			Transitive	Goal		Pr:Material	
			Ergative	Medium			
163	272	Material		<i>you</i>	<i>ban</i>	<i>this parallel importing</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
163	273	Material		<i>you</i>	<i>cause</i>	<i>a shortage of CDs</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
163	274	Material		<i>Australians</i>	<i>won't produce</i>	<i>them</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
163	275	Relational		<i>the price</i>	<i>is</i>	<i>too low for them to produce</i>	
			Transitive	Carrier	Pr:Relational	Attribute	
			Ergative	Medium		Range	
165	277	Material		<i>we</i>	<i>can't bring</i>	<i>them</i> <i>in from overseas</i>	
			Transitive	Actor	Pr:Material	Goal	Circumstance
			Ergative	Agent		Medium	Circumstance
165	278	Relational		<i>we</i>	<i>'ll have</i>	<i>a shortage illustrated by that gap there and that gap there</i>	
			Transitive	Carrier:Poss	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
167	280	Relational		<i>we</i>	<i>have</i>	<i>that shortage that pushes price back up towards the thirty dollars</i>	
			Transitive	Carrier:Poss	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	

**Economics lecturer – student discussion
Text C/3**

turn	mes	Process type					
167	281	Relational		<i>it</i>	<i>won't be</i>	<i>right up to thirty dollars</i>	
			Transitive	Carrier	Pr:Relational	Circ:Extent	
			Ergative	Medium		Circ:Extent	
167	282	Relational		<i>we</i>	<i>had</i>	<i>thirty dollars here twenty dollars here</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
167	283	Material		<i>it</i>	<i>might push</i>	<i>it</i>	<i>up to</i>
			Transitive	Actor	Pr:Material	Goal	Circumstance
			Ergative	Agent		Medium	Circumstance
169	285	Verbal		<i>it</i>	<i>says</i>	<i>seven dollars</i>	<i>here</i>
			Transitive	Sayer	Pr:Verbal	Verbiage	Circ:location
			Ergative	Medium		Range	Circ:location
169	286	Material		<i>[it]</i>	<i>might push</i>	<i>it</i>	<i>up to twenty seven dollars something like that</i>
			Transitive	[Actor]	Pr:Material	Goal	Circ:manner
			Ergative	[Agent]		Medium	Circ:manner
169	287	Material		<i>a tax or a parallel importing ban</i>		<i>does</i>	<i>the same thing</i>
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
169	289	Material		<i>a tax</i>	<i>doesn't (do</i>	<i>the same thing)</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
169	290	Material		<i>it</i>	<i>puts</i>	<i>an extra charge</i>	<i>on the good</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
169	291	Material		<i>a parallel importing ban</i>		<i>does</i>	<i>it</i>
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
169	292	Relational		<i>it</i>	<i>causes</i>	<i>a shortage of the CDs</i>	
			Transitive	Attributor	Pr:Relational	Attribute:resultative	
			Ergative	Agent		Range	

**Economics lecturer – student discussion
Text C/4**

turn	mes	Process type					
169	294	Material		<i>you need to draw a really big diagram like that OK</i>			
			Transitive	Actor	Pr:Material	Goal	Circ:comparison
			Ergative	Agent		Medium	Circ:comparison
171	297	Relational		<i>it 's almost exactly the same as the tariff diagram</i>			
			Transitive	Carrier	Pr:Relational	Attribute	
			Ergative	Medium		Range	
173	299	Material		<i>starting from where we left off with question three</i>			
			Transitive	Pr:Material	Circ:location		
			Ergative		Circ:location		

**Student – student discussion
Text 5**

turn	mes	Process type					
175	198	Material		<i>parallel importing</i>	<i>is mainly to ban</i>	<i>those importing</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
175	299	Material		<i>that(=ban those importing)</i>	<i>causes</i>	<i>the price to go up</i>	
			Transitive	Actor	Pro....	Token	Material
			Ergative	Agent		Medium	
175	300	Material		<i>the thing</i>		<i>is to ban</i>	
			Transitive	Actor		Pr:Material	
			Ergative	Medium			
176	302	Relational		<i>the price</i>	<i>is</i>	<i>part of world price right?</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
179	307	Relational		<i>it(=the price)</i>	<i>is</i>	<i>twenty</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
179	308	Relational		<i>it(=the price)</i>	<i>is</i>	<i>twenty</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
180	309	Relational		<i>that</i>	<i>affects</i>	<i>price?</i>	
			Transitive	Token	Pr:Relational:causative Sep.265	Value	
			Ergative	Medium		Range	
184	313	Material		<i>we</i>	<i>want to import</i>	<i>[into] Australia right?</i>	
			Transitive	Actor	Pr:Material	Circumstance:location	
			Ergative	Medium		Circumstance:location	
186	315	Material		<i>we</i>	<i>restrict</i>	<i>(the) parallel importing</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
186	316	Material		<i>the price</i>		<i>doubles</i>	
			Transitive	Actor	Pr:Material		
			Ergative	Medium			

**Student – student discussion
Text 5/2**

turn	mes	Process type							
187	317	Relational		<i>it(=the price)</i>		<i>'s</i>		<i>a fixed one</i>	
			Transitive	Token		Pr:Relational		Value	
			Ergative	Medium				Range	
189	319	Material		<i>we</i>		<i>will import</i>		<i>all this</i>	
			Transitive	Actor		Pr:Material		Goal	
			Ergative	Agent				Medium	
192	322	Material		<i>it</i>		<i>restrict[s]</i>		<i>companies</i>	
			Transitive	Actor		Pr:Material		Goal	
			Ergative	Agent				Medium	
193	323	Relational		<i>it</i>		<i>will be</i>		<i>a very cheap price</i>	
			Transitive	Carrier		Pr:Relational		Attribute	
			Ergative	Medium				Range	
193	324	Material		<i>it</i>		<i>allow</i>		<i>the shortage</i>	
			Transitive	Actor		Pr:Material		Goal	
			Ergative	Agent				Medium	
193	326	Existential		<i>there</i>		<i>is</i>		<i>a shortage</i>	
			Transitive		Pr:Existential		Existent	Circ:location	
			Ergative				Medium	Circ:location	
194	327	Material		<i>we</i>		<i>minimise</i>		<i>the shortage right?</i>	
			Transitive	Actor		Pr:Material		Goal	
			Ergative	Agent				Medium	
195	328	Relational		<i>I</i>		<i>haven't got</i>		<i>the question</i>	
			Transitive	Carrier:Possessor		Pr:Relational		Attribute:Possessed	
			Ergative	Medium				Range	
195	329	Relational		<i>is</i>		<i>the question whether</i>		<i>helps to solve</i>	
			Transitive	Pr...	Token		Relational: causative		Value
			Ergative		Medium		WFG:124		Range
195	330	Material		<i>is[are]</i>		<i>it[they=CDs]</i>		<i>produced</i>	
			Transitive	Pr...	Goal		Material	Actor	
			Ergative		Medium			Agent	
							<i>by the local [producers]</i>		
							<i>is[are]</i>		
							<i>it [they]?</i>		

Student – student discussion
Text 5/3

turn	mes	Process type					
196	332	Material		<i>the pi(=parallel importing)</i>		<i>is to minimise</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
197	334	Material		<i>indicate [[by drawing a line]]</i>			
			Transitive	Pr:Material		Goal	
			Ergative	Medium			
197	336	Material		<i>they</i>	<i>can sell</i>	<i>at this price</i>	
			Transitive	Actor	Pr:Material	Circumstance:role	
			Ergative	Medium		Circumstance:role	
200	339	Material		<i>they</i>	<i>can sell</i>		
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
201	340	Relational		<i>it</i>	<i>is</i>	<i>better</i>	
			Transitive	Carrier	Pr:Relational	Attribute	
			Ergative	Medium		Range	
203	342	Relational		<i>I</i>	<i>'ve</i>	<i>no idea</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
203	343	Relational		<i>it</i>	<i>is</i>	<i>better</i>	
			Transitive	Carrier	Pr:Relational	Attribute	
			Ergative	Medium		Range	
203	344	Mental		<i>I</i>	<i>don't think</i>		
			Transitive	Senser	Pr:Mental		
			Ergative	Medium			
207	349	Mental		<i>I</i>	<i>see</i>		
			Transitive	Senser	Pr:Mental		
			Ergative	Medium			
210	353	Material		<i>parallel importing the price</i>		<i>[will] go up</i>	
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
212	356	Material		<i>this parallel importing the price</i>		<i>will (be) go up</i>	
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
212	357	Relational		<i>[will]</i>	<i>[it]</i>	<i>be</i>	
			Transitive	Pr...	Carrier	Relational	Attribute
			Ergative		Medium		Range

Student – student discussion
Text 5/4

turn	mes	Process type						
219	364	Relational		<i>the parallel importing [price]</i>	<i>[is]</i>	<i>almost the same</i>	<i>after we fix the parallel importing</i>	
			Transitive	Carrier	Pr:Relational	Attribute	Circ:temporal	
			Ergative	Medium		Range		
219 - 220	366 - 367	Relational		<i>it</i>	<i>is</i>	<i>something like the shortage</i>		
Transitive	Carrier		Pr:Relational	Attribute				
Ergative	Medium			Range				
221	369	Material		<i>we</i>	<i>cut down</i>	<i>the imports</i>		
			Transitive	Actor	Pr:Material	Goal		
			Ergative	Agent		Medium		
222	370	Material		<i>it</i>	<i>forces</i>	<i>the price</i>	<i>to go up</i>	<i>because of this shortage of demand</i>
			Transitive	Actor	Pro...	Goal	Material	Circ:causal:reason
			Ergative	Agent		Medium		Circ:causal:reason
222	371	Relational		<i>the price</i>	<i>is</i>	<i>higher</i>		
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
223	372	Material		<i>the price</i>	<i>will be forced to go</i>	<i>higher</i>		
			Transitive	Actor	Pr:Material	Goal		
			Ergative	Agent		Medium		
224	373	Material		<i>the price</i>	<i>increases</i>			
			Transitive	Actor	Pr:Material			
			Ergative	Medium				
225	375	Material		<i>the price</i>	<i>will increase</i>			
			Transitive	Actor	Pr:Material			
			Ergative	Medium				
226	376	Relational		<i>what</i>	<i>'s</i>	<i>the cost?</i>		
			Transitive	Value	Pr:Relational	Token		
			Ergative	Range		Medium		
226	377	Material		<i>the price</i>	<i>go up?</i>			
			Transitive	Actor	Pr:Material			
			Ergative	Medium				

Student – student discussion
Text 5/5

turn	mes	Process type				
227	378	Material		<i>the price</i>		<i>increase right</i>
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
227	379	Relational		<i>what</i>	<i>'s</i>	<i>the effect?</i>
			Transitive	Value	Pr:Relational	Token
			Ergative	Range		Medium
228	380	Relational		<i>what</i>	<i>'s</i>	<i>the effect?</i>
			Transitive	Value	Pr:Relational	Token
			Ergative	Range		Medium
228	381	Material		<i>the price</i>		<i>is forced to be increased</i>
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
228	382	Relational		<i>this</i>	<i>is</i>	<i>the world prices</i>
			Transitive	Token	Pr:Relational	Value
			Ergative	Medium		Range
228	383	Material		<i>the price</i>		<i>is forced to be increased</i>
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
228	384	Material <i>gloss</i>		<i>the local producers</i>	<i>reduce</i>	<i>the price to a lower price</i>
			Transitive	Actor	Pr:Material	Goal
			Ergative	Agent		Medium
228	385	Material		<i>they</i>	<i>can still compete</i>	<i>with those prices</i>
			Transitive	Actor	Pr:Material	Circ:accompaniment
			Ergative	Medium		Circ:accompaniment
228	386	Material		<i>this</i>	<i>can still protect</i>	<i>the local industry</i>
			Transitive	Actor	Pr:Material	Goal
			Ergative	Agent		Medium
230	388	Mental		<i>i</i>	<i>confuse[d</i>	<i>you]?</i>
			Transitive	Phenomenon	Pr:Mental	Senser
			Ergative	Agent		Medium
232	390			<i>i</i>	<i>[m] confuse[d]</i>	
			Transitive	Senser	Pr:Mental	
			Ergative	Medium		

**Student – student discussion
Text 5/6**

turn	mes	Process type						
237	395	Relational		<i>it</i>		<i>'s</i>		<i>perfect competition</i>
			Transitive	Carrier		Pr:Relational		Attribute
			Ergative	Medium				Range
238	397	Mental		<i>do</i>	<i>we</i>	<i>need to relate</i>	<i>it</i>	<i>to reality?</i>
			Transitive	Pr...	Senser	Mental	Phenomenon	Circ
			Ergative		Medium		Range	Circ
238	398	Material		<i>does</i>	<i>this</i>	<i>use</i>	<i>the figures to show the shortage?</i>	
			Transitive	Pr...	Actor	Material	Goal	
			Ergative		Agent		Medium	
238	399	Relational		<i>what</i>	<i>'s</i>	<i>the price</i>	<i>now?</i>	
			Transitive	Value	Pr:Relational	Token	Circ:temporal	
			Ergative	Range		Medium	Circ:temporal	
238	400	Relational		<i>what</i>	<i>'s</i>	<i>the parallel importing effects</i>	<i>on the price?</i>	
			Transitive	Value	Pr:Relational	Token	Circ:location	
			Ergative	Range		Medium	Circ:location	
242	406	Material		<i>you</i>	<i>use</i>	<i>[the] demand and supply to manage the market</i>		
			Transitive	Actor	Pr:Material	Goal		
			Ergative	Agent		Medium		
243 - 245	407 - 409	Existential		<i>in (a) perfect [competition] in Australia</i>		<i>there</i>	<i>should not be</i>	<i>government intervention</i>
			Transitive	Circ:contingency		Pr:Existential	Existent	
			Ergative				Medium	
247	411	Material		<i>why</i>	<i>do</i>	<i>they</i>	<i>still use</i>	<i>the same rules to illustrate?</i>
			Transitive		Pr...	Actor	Material	Goal
			Ergative			Agent		Medium
249	413	Material		<i>don't</i>	<i>you</i>	<i>need to touch on</i>	<i>the government intervention point?</i>	
			Transitive	Pr...	Actor	Material	Goal	
			Ergative		Agent		Medium	
251	417	Material		<i>I</i>	<i>am making</i>	<i>intervention</i>		
			Transitive	Actor	Pr:Material	Goal		
			Ergative	Agent		Medium		

**Economics lecturer – student discussion
Text D**

turn	mes	Process type						
255	435	Relational		<i>that</i>		's	<i>world price</i>	
			Transitive	Token	Pr:Relational	Value		
			Ergative	Agent		Range		
255	436	Material		<i>local price</i>	<i>is set</i>	<i>here the equilibrium thirty dollars</i>	<i>by local demand and supply</i>	
			Transitive	Goal	Pr:Material	Circ 1	Actor	
			Ergative	Medium		Circ 1	Agent	
255	437	Material		<i>the world price</i>	<i>is set</i>	<i>by demand and supply</i>	<i>in other countries</i>	
			Transitive	Goal	Pr:Material	Actor	Circ:location	
			Ergative	Medium		Agent	Circ:location	
258	439	Existential		<i>there</i>		's	<i>a lot better technology</i>	<i>in other countries</i>
			Transitive		Pr:Exist.	Existent	Circ:location	
			Ergative			Medium	Circ:location	
260 - 262	441 - 443	Relational		<i>the supply curve</i>	<i>is</i>	<i>further out to the right</i>		
			Transitive	Token	Pr:Relational	Circ:location		
			Ergative	Agent		Circ:location		
262	444	Relational		<i>the price</i>		<i>is</i>	<i>lower</i>	
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
262	445	Relational		<i>it</i>		's	<i>just whatever demand and supply conditions</i>	<i>overseas</i>
			Transitive	Assigner	Pro...	Token	Relational	Value
			Ergative	Agent 1		Agent 2		Range
262 /26 4	446 /44 8	Relational		<i>the firms</i>	<i>might be</i>	<i>more efficient at producing them</i>		
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
264 /26 6	449 /45 1	Relational		<i>[the firms]</i>	<i>have</i>	<i>better technology to produce them or whatever</i>		
			Transitive	[Carrier:Possessor]	Pr:Relational	Attribute:Possessed		
			Ergative	[Medium]		Range		

**Economics lecturer – student discussion
Text D/2**

turn	mes	Process type					
266	452	Relational		<i>they</i>	<i>have</i>	<i>a different equilibrium price</i>	
			Transitive	Carrier:Possess.	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
266	453	Material		<i>you</i>	<i>show</i>	<i>it</i>	<i>on this market</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
266	454	Material		<i>you</i>	<i>show</i>	<i>it</i>	<i>just as below the</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
266	455	Relational		<i>this</i>	<i>is</i>	<i>the demand and supply</i>	<i>in Australia</i>
			Transitive	Token	Pr:Relational	Value	Circ:location
			Ergative	Medium		Range	Circ:location
266	456	Material		<i>this world price</i>	<i>is set</i>	<i>by the demand and supply</i>	<i>in another country</i>
			Transitive	Goal	Pr:Material	Actor	Circ:location
			Ergative	Medium		Agent	Circ:location
266	457	Relational		<i>which</i>	<i>is</i>	<i>just below this</i>	
			Transitive	Token	Pr:Relational	Circ:location	
			Ergative	Agent		Circ:location	
266	458	Relational		<i>now we</i>	<i>have</i>	<i>this</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
266	459	Material		<i>we</i>	<i>'re</i>	<i>a very small country</i>	
			Transitive	Carrier	Pr:Material	Attribute	
			Ergative	Medium		Range	
268	462	Material		<i>this small country</i>	<i>subsequentially lends</i>	<i>to this horizontal supply curve</i>	
			Transitive	Actor	Pr:Material	Circumstance	
			Ergative	Medium		Circumstance	

**Economics lecturer – student discussion
Text E**

turn	mes	Process type					
274	469	Material		<i>local producers</i>	<i>tend only to supply</i>	<i>that much</i>	<i>there</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
274	472	Material		<i>the local producers</i>	<i>are only prepared to supply</i>	<i>that much</i>	<i>there</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
274	473	Relational		<i>that</i>	<i>'s</i>	<i>the QS</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
274	474	Relational		<i>this</i>	<i>is</i>	<i>how much</i>	<i>[[people want to demand]]</i>
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
274	476	Relational		<i>you</i>	<i>get</i>	<i>that shortage</i>	
			Transitive	Recipient	Pr:Relational	Value	
			Ergative	Beneficiary		Range	
274	477	Relational		<i>part of it</i>	<i>is still</i>	<i>by imports</i>	
			Transitive	Value	Pr:Relational	Token	
			Ergative	Range		Agent	
276	479	Material		<i>part of it</i>	<i>is not filled</i>	<i>by either local</i>	<i>produced or importers</i>
			Transitive	Value	Pr:Material	Token	
			Ergative	Range		Agent	
280	483	Material		<i>that</i>	<i>forces</i>	<i>the price</i>	<i>up</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
282	486	Relational		<i>that</i>	<i>'s</i>	<i>why</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
282	487	Material		<i>the ban</i>	<i>forces</i>	<i>the price</i>	<i>up</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location

**Economics lecturer – student discussion
Text F**

turn	mes	Process type					
286	493	Material		<i>it(=the ban price)</i>	<i>'s not set</i>	<i>by anybody</i>	
			Transitive	Goal	Pr:Material	Actor	
			Ergative	Medium		Agent	
288	495	Material		<i>it</i>	<i>'s set</i>	<i>by the shortage</i>	
			Transitive	Goal	Pr:Material	Actor	
			Ergative	Medium		Agent	
288	495	Material		<i>the price</i>	<i>will continue to go up</i>	<i>until these shortages disappear</i>	
			Transitive	Actor	Pr:Material	Circ:temporal	
			Ergative	Agent		Circ:temporal	
290	498	Relational		<i>you</i>	<i>'ll be left</i>	<i>with imports</i>	
			Transitive	Recipient	Pr:Relational	Range	
			Ergative	Beneficiary		Range	
294	504	Relational		<i>that</i>	<i>'ll be</i>	<i>imports</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
296	506	Material		<i>some imports</i>	<i>are allowed</i>		
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
299	511	Material		<i>it(=the price)</i>	<i>won't reach</i>	<i>these</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
299	512	Relational		<i>you</i>	<i>got</i>	<i>your pri[ce]</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
299	513			<i>let</i>	<i>me</i>	<i>start</i>	<i>again</i>
			Transitive	Pro...	Actor	Material	Circ:Extent
			Ergative		Medium		Circ:Extent
299	514	Existential		<i>there</i>	<i>'s</i>	<i>equilibrium price of thirty</i>	
			Transitive		Pro:Existential	Existent	
			Ergative			Medium	

**Economics lecturer – student discussion
Text F/2**

turn	mes	Process type					
299	515	Relational		<i>this</i>	<i>is</i>	<i>twenty dollars</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
302	520	Relational		<i>that</i>	<i>would be</i>	<i>the demand</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
302	521	Relational		<i>that</i>	<i>would be</i>	<i>the supply</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
302	522	Relational		<i>we</i>	<i>would have</i>	<i>that many imports coming in</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
305	525	Material		<i>you</i>	<i>'re not allowed to import</i>	<i>this many</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
305	526	Relational		<i>that</i>	<i>was</i>	<i>sixty</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
305	527	Relational		<i>we</i>	<i>had</i>	<i>twenty thousand</i>	
			Transitive	Carrier:Possessed	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
305	529	Material		<i>you</i>	<i>'re not allowed to import</i>	<i>that many</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Range	
305	530	Material		<i>you</i>	<i>'re only allowed to import</i>	<i>ten</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Range	
307	532	Relational		<i>what we've now got</i>	<i>is</i>	<i>a shortage</i>	<i>here of five and a shortage here of five</i>
			Transitive	Token	Pr:Relational	Value	Circ:location
			Ergative	Medium		Range	Circ:location

**Economics lecturer – student discussion
Text F/3**

turn	mes	Process type					
307	533	Relational		<i>whatever</i>	<i>it</i>	<i>happens to be</i>	
			Transitive	Value	Token	Pr:Relational	
			Ergative	Range	Agent		
307	534	Relational		<i>we</i>	<i>'ve got</i>	<i>sixty</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
307	535	Material		<i>[which]</i>	<i>are produced</i>	<i>locally</i>	
			Transitive	[Actor]	Pr:Material	Circ:location	
			Ergative	[Medium]		Circ:location	
307	536	Material		<i>ten</i>	<i>are allowed to be imported</i>		
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
307	537	Relational		<i>that</i>	<i>'s</i>	<i>seventy</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
307	538	Relational		<i>we</i>	<i>have</i>	<i>eighty</i>	
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
309	540	Material		<i>people</i>	<i>want to buy</i>		
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
311	543	Relational		<i>we</i>	<i>'re</i>	<i>ten</i> <i>short</i>	
			Transitive	Carrier	Pr:Relational	Attribute	Circ:manner
			Ergative	Medium		Range	Circ:manner
311	544	Material		<i>that</i>	<i>starts to push</i>	<i>the price</i> <i>up</i>	
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
311	545	Material		<i>the price</i>	<i>goes up</i>		
			Transitive	Actor	Pr:Material		
			Ergative	Medium			

**Economics lecturer – student discussion
Text F/4**

turn	mes	Process type					
311	546	Material		<i>[it](=price going up) brings more sellers into the</i>			
			Transitive	[Actor]	Pr:Material	Goal	Circumstance...
			Ergative	[Agent]		Medium	Circumstance...
311	547	Material		<i>[it] takes buyers out</i>			
			Transitive	[Actor]	Pr:Material	Goal	Circ:location
			Ergative	[Agent]		Medium	Circ:location
311	548	Material		<i>buyers can't afford this much</i>			
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
313	551	Material		<i>the price will stop rising</i>			
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
313	552	Material		<i>you get here to twenty seven dollars</i>			
			Transitive	Actor	Pr:Material	Circ:location	
			Ergative	Medium		Circ:location	
315	554	Relational		<i>there 's no shortage anymore</i>			
			Transitive		Pro:Existential	Existent	Circ:temporal
			Ergative			Medium	Circ:temporal
315	555	Relational		<i>at twenty seven dollars it would have to be seventy</i>			
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
315	556	Relational		<i>we 've got seventy [[supplied domestically]]</i>			
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed	
			Ergative	Medium		Range	
315	560	Relational		<i>it can't be seventy</i>			
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	

**Economics lecturer – student discussion
Text F/5**

turn	mes	Process type					
317	562	Relational		<i>that</i>	<i>'s got to be</i>	<i>sixty five</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
319	564	Relational		<i>that</i>	<i>'s got to be</i>	<i>seventy five</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
321	567	Relational		<i>seventy five</i>	<i>is</i>	<i>the total amount [[that people will want]]</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
321	568	Material		<i>local suppliers</i>	<i>are prepared to sell</i>	<i>sixty five</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
323	570	Material		<i>ten</i>	<i>is coming</i>	<i>in</i>	<i>from imports</i>
			Transitive	Actor	Pr:Material	Circ 1	Circ 2
			Ergative	Medium		Circ 1	Circ 2
326	573	Material		<i>price</i>	<i>will stop going</i>	<i>up</i>	
			Transitive	Actor	Pr:Material	Circ:location	
			Ergative	Medium		Circ:location	
326	574	Material		<i>you</i>	<i>'ve reached</i>	<i>that level</i>	<i>there</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
326	575	Material		<i>it(=price)</i>	<i>won't go</i>	<i>up to thirty</i>	
			Transitive	Actor	Pr:Material	Circ:location	
			Ergative	Medium		Circ:location	
328	579	Relational		<i>thirty</i>	<i>is</i>	<i>the equilibrium</i>	<i>without any imports</i>
			Transitive	Token	Pr:Relational	Value	Circ:manner
			Ergative	Medium		Range	Circ:manner

**Economics lecturer – student discussion
Text F/6**

turn	mes	Process type					
331	582	Relational		<i>that</i>	<i>'s</i>	<i>where they're talking about the seven dollar</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
335	588	Relational		<i>this</i>	<i>is</i>	<i>where you've got your ban</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
335	589	Material		<i>you</i>	<i>take</i>	<i>that</i>	<i>away</i>
			Transitive	Actor	Pr:Material	Goal	Circ:location
			Ergative	Agent		Medium	Circ:location
335	591	Material		<i>you</i>	<i>'ll go</i>	<i>back down to there</i>	
			Transitive	Actor	Pr:Material	Circ:location	
			Ergative	Medium		Circ:location	
335	592	Material		<i>[you]</i>	<i>do</i>	<i>the reverse of that</i>	
			Transitive	[Actor]	Pr:Material	Goal	
			Ergative	[Agent]		Medium	
337	595	Relational		<i>that</i>	<i>'s</i>	<i>part</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
337	596	Relational		<i>which one</i>	<i>are</i>	<i>you?</i>	
			Transitive	Value	Pr:Relational	Token	
			Ergative	Range		Medium	
341	601	Material		<i>you</i>	<i>do</i>	<i>this is where it gets pushed up to twenty seven</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
341	602	Material		<i>the people [[doing part two]]</i>	<i>will go</i>	<i>back down</i>	
			Transitive	Actor	Pr:Material	Circ:location	
			Ergative	Medium		Circ:location	

**Economics lecturer – student discussion
Text F/7**

turn	mes	Process type				
345	606	Material		<i>[you]</i>	<i>reverse</i>	<i>it</i>
			Transitive	[Actor]	Pr:Material	Goal
			Ergative	[Agent]		Medium
348	612	Relational		<i>that</i>	<i>'s</i>	<i>right</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range
352	617	Relational		<i>that</i>	<i>'s</i>	<i>right</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range
354	619	Relational		<i>that</i>	<i>'s</i>	<i>right</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range

**Student – student discussion
Text 6**

turn	mes	Process type							
357	622	Material		<i>borrow [lend]</i>		<i>me</i>		<i>the graph</i>	
			Transitive	Pr:Material		Actor		Goal	
			Ergative			Agent		Medium	
358	623	Material		<i>you</i>		<i>should import</i>		<i>all those twenty</i>	
			Transitive	Actor		Pr:Material		Goal	
			Ergative	Agent				Medium	
358	624	Material <i>gloss</i>		<i>the price</i>	<i>restricts</i>		<i>imports</i>	<i>to only ten</i>	
			Transitive	Actor	Pr:Material		Goal	Circ:manner	
			Ergative	Agent			Medium	Circ:manner	
359	625	Existential		<i>there</i>		<i>is still</i>		<i>a shortage of ten</i>	
			Transitive			Pr:Existential		Existent	
			Ergative					Medium	
362	631	Material		<i>it</i>		<i>[does] 's not supply</i>		<i>the people</i>	
			Transitive	Actor		Pr:Material		Goal	
			Ergative	Agent				Medium	
362	632	Material		<i>they</i>	<i>tend to produce</i>		<i>more</i>	<i>after this</i>	
			Transitive	Actor	Pr:Material		Goal	Circ:location	
			Ergative	Agent			Medium	Circ:location	
364	636	Relational		<i>the price</i>		<i>[is]</i>		<i>high</i>	
			Transitive	Carrier		Pr:Relational		Attribute	
			Ergative	Medium				Range	
365	638	Existential		<i>there</i>		<i>is</i>		<i>a shortage</i>	
			Transitive			Pr:Existential		Existent	
			Ergative					Medium	
367	640	Material		<i>we</i>		<i>just import</i>		<i>ten</i>	<i>only</i>
			Transitive	Actor	Pr:Material		Goal	Circumstance	
			Ergative	Agent			Medium	Circumstance	
368	641	Relational		<i>got</i>		<i>ten</i>		<i>only</i>	
			Transitive	Pr:Relational		Attribute:Possessed		Circumstance	
			Ergative			Medium		Circumstance	

Student – student discussion
Text 6/2

turn	mes	Process type					
369	642	Relational		<i>that</i>	's	<i>another shortage of ten</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
370	644	Relational		<i>the price</i>	<i>[is]</i>	<i>low</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
370	645	Material		<i>the producer</i>	<i>can produce</i>	<i>more</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
372	647	Relational		<i>the price</i>	<i>[is]</i>	<i>now</i>	<i>twenty seven</i>
			Transitive	Token	Pr:Relational	Circ:temporal	Value
			Ergative	Medium			Range
372	648	Material		<i>they</i>	<i>tend to produce</i>	<i>more</i>	
			Transitive	Actor	Pr:Material	Goal	
			Ergative	Agent		Medium	
374	650	Relational		<i>the price</i>	<i>is</i>	<i>twenty seven</i>	
			Transitive	Token	Pr:Relational	Value	
			Ergative	Medium		Range	
374 - 376	651 - 653	Material		<i>the buyer</i>	<i>will not buy</i>		
			Transitive	Actor	Pr:Material		
			Ergative	Medium			
381	658	Verbal		<i>explain</i>	<i>to me</i>		
			Transitive	Pr:Verbal	Circ:location		
			Ergative				
382	659	Verbal		<i>you</i>	<i>explain</i>	<i>to me</i>	
			Transitive	Sayer	Pr:Verbal	Circ:location	
			Ergative	Medium		Circ:location	
382	660	Verbal		<i>you</i>	<i>explain</i>	<i>to me</i>	
			Transitive	Sayer	Pr:Verbal	Circ:location	
			Ergative	Medium		Circ:location	

Student – student discussion
Text 6/3

turn	mes	Process type				
384	664	Verbal		<i>you</i>	<i>explain</i>	<i>the shortage</i>
			Transitive	Sayer	Pr:Verbal	Verbiage
			Ergative	Medium		Range
386 - 388	669 - 672	Material		<i>this</i>	<i>is not produced</i>	<i>by anyone</i>
			Transitive	Goal	Pr:Material	Actor
			Ergative	Medium		Agent
386	670	Material		<i>the price</i>	<i>will push up</i>	<i>to twenty seven</i>
			Transitive	Actor	Pr:Material	Circumstance
			Ergative	Medium		Circumstance
392	676	Relational		<i>the price</i>	<i>is</i>	<i>higher</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range
392	677	Material		<i>the supplier</i>	<i>will produce</i>	<i>more</i>
			Transitive	Actor	Pr:Material	Goal
			Ergative	Agent		Medium
394	679	Relational		<i>the price</i>	<i>is</i>	<i>higher</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range
394	680	Relational		<i>the demand</i>	<i>is</i>	<i>less</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range
394	681	Material		<i>the buyer</i>	<i>can't afford</i>	
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
394	682	Material		<i>[the buyer]</i>	<i>maybe is not willing to buy</i>	<i>at that higher price</i>
			Transitive	[Actor]	Pr:Material	Circ:location
			Ergative	[Medium]		
394	683	Material		<i>[lower demand]</i>	<i>push[es] up</i>	<i>the price higher to here</i>
			Transitive	[Actor]	Pr:Material	Goal
			Ergative	[Agent]		Medium

**Student – student discussion
Text 6/4**

turn	mes	Process type						
395	686	Mental		<i>why</i>	<i>do</i>	<i>they</i>	<i>want less?</i>	
			Transitive		Pr...	Senser	Mental	Phenomenon
			Ergative			Medium		Range
396	687	Relational		<i>the price</i>	<i>is</i>	<i>higher</i>		
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
396	688	Relational		<i>the price</i>	<i>[is]</i>	<i>higher</i>		
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
397	689	Material		<i>you</i>	<i>have to buy</i>			
			Transitive	Actor	Pr:Material			
			Ergative	Medium				
398	691	Existential		<i>there</i>	<i>'s</i>	<i>still somebody [who] would like to buy not that more</i>		
			Transitive		Pr:Existential	Existent		
			Ergative			Medium		
399	692	Relational		<i>it</i>	<i>will be</i>	<i>less demand</i>		
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
402	695	Relational		<i>you</i>	<i>'re</i>	<i>right</i>		
			Transitive	Carrier	Pr:Relational	Attribute		
			Ergative	Medium		Range		
402	696	Relational		<i>nothing</i>	<i>will have</i>	<i>constant demand</i>		
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed		
			Ergative	Medium		Range		
403	697	Mental		<i>you</i>	<i>know</i>			
			Transitive					
			Ergative					
405	699	Relational		<i>coffee</i>	<i>[has]</i>	<i>constant demand</i>		
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed		
			Ergative	Medium		Range		

**Student – student discussion
Text 6/5**

turn	mes	Process type				
406	700	Mental		<i>I</i>		<i>know</i>
			Transitive	Senser	Pr:Mental	
			Ergative	Medium		
406	701	Relational		<i>that</i>	<i>'s</i>	<i>right</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range
406	703	Mental		<i>I</i>		<i>know</i>
			Transitive	Senser	Pr:Mental	
			Ergative	Medium		
406	704	Relational		<i>it</i>	<i>'s</i>	<i>a very elastic demand</i>
			Transitive	Carrier	Pr:Relational	Attribute
			Ergative	Medium		Range
409	707	Material		<i>you</i>		<i>have to buy</i>
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
410	708	Material		<i>they</i>		<i>have to buy</i>
			Transitive	Actor	Pr:Material	
			Ergative	Medium		
411	709	Existential		<i>there</i>	<i>'s</i>	<i>one thing</i>
			Transitive		Pr:Existential	Existent
			Ergative			Medium
411	710	Existential		<i>there</i>	<i>'s</i>	<i>zero demand</i>
			Transitive		Pr:Existential	Existent
			Ergative			Medium
411	711	Mental		<i>you</i>	<i>know</i>	<i>what?</i>
			Transitive	Senser	Pr:Mental	Phenomenon
			Ergative	Medium		Range
413	713	Relational		<i>who</i>	<i>has</i>	<i>that?</i>
			Transitive	Carrier:Possessor	Pr:Relational	Attribute:Possessed
			Ergative	Medium		Range

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