

From dot points to disciplinarity: the theory and practice of disciplinary literacies in secondary schooling

by

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Candidate's certification

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree or qualification.

I certify that any help received in preparing this thesis and all sources used have been acknowledged in this thesis.

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A handwritten signature in cursive script that reads "Patricia Weekes". The signature is written in a dark ink and is positioned below the "Signature:" label.

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Abstract

This thesis explores the disciplinary literacies of Business Studies and Music, with a focus on the written component of the HSC examination in the final year of schooling in New South Wales. The syllabus contains dot points of topics to be covered in the course but these offer little guidance for teachers or students in how to compose an answer to an HSC examination question and they obscure relations between different aspects of disciplinary knowledge

To help teachers move beyond syllabus dot points, this thesis aims to illuminate the distinctive literacy demands of Business Studies and Music. This is achieved by using analytical frameworks from Systemic Functional Linguistics and Systemic Functional Multimodal Discourse Analysis to explore the features of successful HSC writing in these two subjects. Analysis reveals that successful writing in Business Studies explains patterns of cause and effect with profit as the main motive. In contrast, successful HSC writing in Music describes musical events in terms of concepts of music and principles of musical composition. In the analysis, concepts of music are systematised as networks and taxonomies to reveal the relations within and between concepts. The analysis also includes a typology of images (graphic notation and non-traditional notation) used to represent music to enable an investigation of how image and written text are inter-related in successful HSC responses.

To explore the enacted curriculum, this thesis also describes a literacy intervention in five classrooms. Analysis of five case studies provides insights into the challenges and opportunities of explicit teaching of disciplinary literacies, as some teachers diverged from agreed lesson plans or disengaged altogether. To explain why the intervention was embraced by some teachers and resisted by others, a sociological perspective provided

by Legitimation Code Theory (Specialisation) interprets the intervention as a series of ‘code clashes’ and ‘code matches’ that help to account for teacher engagement and provide insights into potential pitfalls of literacy research.

Despite these challenges, when students were taught how to structure their answer and ‘make a point’, they were able to produce the kinds of answers that receive high marks for the HSC. Even though these gains were not sustained, given the short intervention, findings indicate promising areas for further exploration and suggest that it is possible to make aspects of the theory and practice of disciplinary literacies visible and available to teachers and students.

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CHAPTER 1: Introduction

Vignette

It is my first day as a Music teacher in a secondary school in Sydney's Inner West. My Year 11 class is a diverse group from many cultural and linguistic backgrounds. None of my students have had individual lessons on an instrument. I ask them to write a review of a song by their favourite band and to refer to the concepts of music in their review. I am surprised when most students struggle with the task. Many seem unable to write a coherent sentence, even though they are 16 years old. I know that their writing has problems but I don't know how to fix it. Even more worrying, my students seem to know little about the concepts of music which they should have been learning about since Year 7. I realise that I don't know how to prepare my students for the final written examination in just over a year.

This research was inspired by my experiences as a secondary school teacher of Music. As revealed in the vignette, my students seemed to have little knowledge of the syllabus content and limited ability to write in ways that would gain them high marks for their final examinations. As their teacher, I did not know how to help them improve their writing or how to convert the language of the syllabus dot points into the language of a successful examination answer. My preservice teacher training had not prepared me to teach the concepts of music and I knew very little about language. Learning about language, and about grammar in particular, was not part of the curriculum when I went to school in the 1970s and early 1980s. I could use language proficiently in my own life but when I walked into a classroom as a teacher, I realised how little I knew about the language of my subject or how to teach it so that students could write successfully. This experience set me on a path to the study of literacy and linguistics, and to this project. My situation is by no means unique and my own struggles to meet the needs of diverse learners are reflected in the wider teaching profession across all subject areas.

The vignette above exemplifies the central problematic of this thesis: how to support students so they both learn subject knowledge and achieve success in high stakes assessment in secondary schooling. This seemingly simple objective is actually highly complex, and engages with many of the ‘big issues’ in contemporary education, including equitable student achievement, disciplinary variation in the curriculum, cumulative learning, literacy, teacher quality, teacher knowledge and beliefs, and effective pedagogy. Each of these areas will be explored in this thesis, through a focus on two senior secondary subjects and case studies of five teachers and their classes in New South Wales. In particular, the focus is on disciplinary literacies and on ways to help teachers and students transform official syllabus documents into successful writing for the Higher School Certificate (HSC) examination at the end of Year 12.

This research aims a spotlight at two popular yet under researched secondary school subjects: Business Studies and Music. I have extensive field knowledge of both subject areas, which allows a useful ‘insider’ perspective on these two subjects. Before becoming a secondary school Music teacher, I worked in marketing, advertising and business conference organisations for several years, gaining a first-hand understanding of the discourse of business. Researching two subjects rather than just one reflects the context of secondary schooling where students move from subject to subject each day and it also highlights the distinctiveness of the literacy practices of each subject.

When a teacher opens the HSC syllabus for Business Studies or Music, on every page they find lists of topics and sub topics in dot point form, but little that reveals a link between these dot points and how a student is expected to compose an answer to an HSC examination question. To help teachers move beyond syllabus dot points, this

thesis aims to illuminate the true nature of Business Studies and Music, that is, the distinctive literacy demands that each subject places on students.

1.1 Disciplinary literacies

The literacy demands placed on students at school are currently considered from two perspectives: that literacy is different in each subject area, and that it involves a wide range of meaning making practices. The view that each subject has differentiated literacy practices is known as ‘disciplinary literacies’, a concept that incorporates knowledge about language as well as content knowledge. Disciplinary literacies are acknowledged in the Australian curriculum: ‘Success in any learning area depends on being able to use the significant, identifiable and distinctive literacy that is important for learning and representative of the content of that learning area’ (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013c, p. 9). One of the challenges of this thesis will be in exploring the ‘significant, identifiable and distinctive’ literacies of Business Studies and Music, as little is currently known about literacy in these subjects. The broad definition of literacy is that it ‘involves students in listening to, reading, viewing, speaking, writing and creating oral, print, visual and digital texts, and using and modifying language in a range of contexts’ (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013c, p. 9). In this study, the focus will be on writing and, in Music, creating visual images as well, as these are the literacies that are involved in successful HSC examination answers. For this reason, this thesis will refer to disciplinary literacies in the plural.

‘Disciplinary literacies’ is a relatively new term that includes but transcends earlier references to content area literacies (discipline-specific ways of reading, writing and

thinking) (Fang & Schleppegrell, 2010; Moje, 2008; Shanahan & Shanahan, 2012).

Disciplinary literacies are:

... a matter of teaching students how the disciplines are different from one another, how acts of inquiry produce knowledge and multiple representational forms (such as texts written in particular ways or with different symbolic systems or semiotic tools), as well as how those disciplinary differences are socially constructed (Moje, 2008, p. 103).

Another closely related area involves how these literacies are taught in the classroom and what kinds of pedagogies are effective in improving student achievement and access to disciplinary knowledge. This research, therefore, has four complementary focus areas: disciplinary knowledge, disciplinary literacies, knowledge about language and teacher knowledge about the discipline and how to teach it.

1. *Disciplinary knowledge* concerns the ‘what’ of the curriculum. In terms of senior secondary school subjects, disciplinary knowledge involves the course requirements in the syllabus, presented as topics and dot points. In Music, these dot points relate to concepts of music as well as the curriculum strands of listening, performing and composing different styles of music. The Business Studies syllabus also consists of dot points, this time listing the topics and sub topics to be covered on the nature of business and commercial activity. This is the knowledge that students have to learn and master in these two subjects by the end of Year 12.

2. The second focus area, *disciplinary literacies* involves the practices students engage in to learn about and understand the subject and to demonstrate their knowledge.

Specifically, this thesis targets the written component of the HSC examination, which requires students to answer questions about syllabus content – a task integrating knowledge of the discipline and discipline specific literacy practices.

3. *Knowledge about language* provides a theoretical basis for describing features of successful answers – the structure of the whole text, patterns of meaning in paragraphs

and sentences and wordings and how these patterns relate to the discipline of Business Studies or of Music. This focus area is connected with the previous two, as contemporary notions of literacy involve ‘a disciplinary based understanding of knowledge’ and incorporate ‘the relation between curriculum knowledge and the language of that curriculum knowledge’ (Freebody, Maton & Martin, 2008, p. 188).

4. *Teacher knowledge* involves what teachers need to know in all of these areas as well as how to teach students most effectively. This is a complex combination of knowledge (‘knowing what’) and practical expertise (‘knowing how’) (Winch, 2010, p. 2), also conceptualised by Shulman (1986) as Pedagogical Content Knowledge (PCK). Another dimension to this area is teacher attitudes and beliefs, which will be shown to be of critical importance in assisting students to achieve their best.

The following section contextualises these issues in secondary schooling in Australia, exploring some of the opportunities and challenges involved with disciplinary literacies in secondary subjects.

1.2 Contextualising the research: Negotiating the challenges of secondary schooling

The expanding body of research and official policy documents reinforce how critical literacy is to student achievement. Literacy skills are essential if students are to engage with the curriculum, succeed in the HSC examination and have access to social and economic opportunities after school. According to the Australian curriculum, literacy helps students achieve both inside and outside of school:

In the Australian curriculum students become literate as they develop the knowledge, skills and dispositions to interpret and use language confidently for learning and communicating in and out of school and for participating effectively in society (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013c, p. 9).

Every year in New South Wales, around 73,000 Year 12 students are confronted by the HSC examination. This examination determines post school pathways, including access to tertiary and vocational education and employment (Freebody, 2007), but students need literacy knowledge and skills that allow them to do more than just pass an examination. Literacy is about ‘about making sense of the world, about building, critiquing and imagining possible worlds, possible futures, and possible lives’ (Luke, 2012, p. 8).

Access to these ‘possible worlds’, however, is not distributed equitably to all students. Low levels of literacy are closely connected to poor academic achievement. Poor literacy ‘limits individuals’ capabilities and civic participation, increases poverty, hinders innovation, reduces productivity and holds back economic growth’ (European Union High Level Group of Experts on Literacy, 2012, p. 21). In Australia, social background tends to be a determiner of educational outcomes. Low achievement in international PISA testing is ‘strongly related to social disadvantage’ (McGaw, 2009, p. 21). Large scale research has revealed ‘links between scholastic failure and socio-economic status’ (Teese & Polesel, 2003, p. 9) and there is widespread concern that the needs of students from backgrounds of social disadvantage are not being met by the education system as a whole (Boston, 2013; Teese, 2011). Findings such as these have led to calls for increased funding to disadvantaged schools and a renewed focus on literacy achievement as a way of improving access to learning (Gonski et al., 2011).

HSC examination results also show that many students are failing to achieve. For example, results in 2012 showed that approximately 5000 students, a third of the cohort who studied Business Studies, one of the most popular subjects in the HSC, achieved results in the lowest two performance bands, below what is considered a satisfactory

minimum standard. In Music, around one in every 10 students was in this low achieving group (Universities Admissions Centre NSW & ACT, 2013). These results point to the fact that many students are failing to demonstrate mastery of subject knowledge in the HSC examination. The teachers of these students, also, seem to be relatively ineffective in building the capacity of their students to learn subject knowledge and to display this learning in written examinations. This suggests that more research is needed into what it takes to achieve in the HSC examination and how teachers can help students attain the desirable top mark range – a *Band 6*.

Several reasons have been identified for why senior secondary schooling can be particularly challenging for students. As students progress through the year levels, the knowledge students need to learn becomes more specialised and complex and so does the reading and writing in each subject area (Christie & Derewianka, 2008; Schleppegrell, 2004). Senior students in New South Wales study five or six subjects, each with its own way of representing the knowledge of the discipline and its ‘characteristic patterns of language that present new forms, purposes, and processing demands’ (Fang & Schleppegrell, 2010, p. 591). At the pinnacle of their schooling career, students are under intense pressure to demonstrate disciplinary literacies in ‘assessment via a solo literate performance’ (Freebody, 2013, p. 5) on which their future may depend. This is particularly challenging for students from disadvantaged backgrounds or from backgrounds where English is an additional language, students with needs that are not necessarily understood or supported by their teachers (Hammond, 1990; Love & Arkoudis, 2006). In fact, research has shown that many students in secondary schools experience ‘orderly restricted’ learning environments of low academic challenge (Johnston & Hayes, 2008). Teachers provide ‘busywork’ such as copying notes from the board or completing simple worksheets while students often

spend most of their energy on socialising. This kind of teaching does not stretch students beyond what they can already do into their zone of proximal development (Vygotsky, 1978). Educational research has consistently linked sustained achievement gains to learning activities of substantive intellectual demand and depth (Gibbons, 2009; Ladwig & Gore, 2005; Lingard et al., 2001). Nevertheless, ‘orderly restricted’ environments are still prevalent, as is exemplified in the classroom environments of two of the five case studies in the current research.

The environment of secondary schooling is a complex one for teachers. The Australian curriculum makes it clear that ‘all teachers are responsible for teaching the subject-specific literacy of their learning area’, not just English teachers. For this reason, subject specialists need ‘a clear understanding of the literacy demands and opportunities of their learning area’ so that teaching and learning of literacy can be ‘embedded in the teaching of the content and processes of that learning area’ (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013c, pp. 9-10). As teachers attempt to meet these requirements, however, they are faced with many obstacles. The main challenge for teachers is a lack of time. With a crowded curriculum and five to seven teaching periods per day, even if teachers think that literacy is important, they do not have time to incorporate literacy teaching into their programs (Barry, 2002; Draper, 2008; Wright, 2007). Additionally, because secondary school teachers deal with so many students in a teaching day, it can be difficult to meet the literacy learning needs of each individual. For example, in my first year of secondary school teaching, I taught 220 students per year and up to 130 in any teaching day. Furthermore, the needs of many of these students can be significant. The student cohort in Australia is becoming increasingly heterogeneous, with between 20-25% of students coming from language backgrounds other than English (Hammond, 2012) and many students coming from backgrounds of

disrupted schooling or trauma (Brown, Miller & Mitchell, 2006; Cassity & Gow, 2006; Love & Arkoudis, 2006). Consequently, it can be difficult to identify individual student needs, let alone support these needs. A final barrier involves teachers' limited knowledge of language and lack of confidence in teaching literacy, factors that will be explored in more detail in Chapter 2.

In summary, there is agreement that '(h)igh school teachers of such diverse groups of first and second language learners need to be supported in developing a knowledge base about both oral and written language' (Love, 2010, p. 339). Despite this consensus, there is a distinct lack of such support in the current syllabus documents. The dot points of the Business Studies and Music syllabus documents do not mention literacy or provide guidance in how to write the HSC examination, which makes the prospect of teaching disciplinary literacies even more demanding and daunting.

Another important contextual factor involves the professional identity of secondary school teachers. As will be explored further in Chapter 2, secondary teachers tend to have a series of beliefs and 'personal epistemologies' (Wilson & Myhill, 2012) that can restrict the possibilities of teaching literacy in their subject. Due to beliefs about 'what counts' in their subject, explicit teaching of writing is often excluded from regular classroom practice. Certain negative attitudes and beliefs about the intellectual capacity of students will also be revealed as limiting the range of possible literacy pedagogies. As a consequence, the issue of teacher beliefs is of central importance to the success of literacy initiatives. To address this complexity, this thesis explores teacher attitudes and beliefs in a systematic way so that discussion of disciplinary literacy is not just theoretical, but also embraces the realities of working with teachers and students in real school environments.

This thesis explores uncharted territory related to the disciplinary literacies of Business Studies and Music. Little is known about the disciplinary knowledge required for success in the HSC examination in these subjects. The syllabus documents for these two subject areas are presented in brief dot point format, with little guidance for students and teachers on how to write for the HSC examination. Consequently, there is no explicit relationship between the syllabus and written responses to HSC examination questions, responses which must be ‘sustained, logical and cohesive’ (Board of Studies NSW, 2011). To date, there has been no analysis of what distinguishes a ‘Band 6’ answer, the highest mark range, nor do we know how the resources of language and image are deployed by students whose answers achieve the highest marks. Importantly, there is little understanding of the most salient features of HSC answers – the ‘make or break’ features that all answers must include in order to pass. Furthermore, teacher understandings of disciplinary literacies for Business Studies and Music have not yet been explored. Given that specialist teachers of Business Studies and Music are unlikely to be trained as linguists, it is important to explore the kinds of knowledge about language that are most powerful in preparing students for the writing requirements of the HSC examination. As teacher epistemologies are so critical to student achievement, exploration is also needed of the kinds of beliefs and attitudes that support explicit teaching of syllabus content and teaching of writing to display that content. As this research aims to support teachers and students in preparing for written assessment tasks, we also need to know more about the conditions that give a literacy intervention the best chance of achieving positive outcomes for both teachers and students.

1.3 Research aims and objectives

The theory and practice of disciplinary literacies are explored in this study in order to achieve two main aims. The first aim is a theoretical one: to ‘map’ disciplinary literacies

in two contrasting subject areas, thus gaining insight into not only the content knowledge of each subject but also the literacy practices that facilitate student success in the HSC examination for each subject. In other words, the aim of this analysis will be to uncover the ‘hidden curriculum’ of each subject. Extending beyond the segmented dot points in the syllabus documents, this research will create an account of disciplinary knowledge in Business Studies and Music so that bodies of knowledge can be considered as coherent wholes. Further, the salient features of disciplinary writing in these two subjects will be examined using the resources of Systemic Functional Linguistics (SFL) as a means of describing, for the first time, the characteristics of successful HSC examination answers.

The second aim is a more practical one: to gain an insight into the realities of classroom praxis in Business Studies and Music. This is achieved by incorporating an intervention stage into the study. The intervention explores what happens when five teachers with limited knowledge of language are exposed to new knowledge about writing and asked to share this knowledge with their students. Thus, in five case studies involving three Business Studies teachers and two Music teachers and their Year 11 classes, theoretical understandings about disciplinary literacies are ‘road tested’ in classrooms. The intervention shows how teachers prepare students for written assessment tasks in regular practice, and also how teachers and their classes respond to explicit teaching of disciplinary literacies. As will be shown, not all teachers engage with the research and some resist or diverge from the agreed lesson plans. Close attention to teacher attitudes and beliefs creates a fuller picture of the complexities of secondary school contexts, as well as providing insights into the challenges and opportunities that accompany the explicit teaching of disciplinary literacies.

1.4 Research questions

Two research questions flow naturally from the aims of the research presented in the previous section:

1. What are the disciplinary literacy demands of the Business Studies and Music HSC examination?

2. How do teachers attempt to address these literacy demands?

Unanticipated experiences that occurred when working with teachers in the intervention stage give rise to a third research question:

3. Why do some teachers embrace a literacy intervention while others resist explicit teaching of literacy?

These three research questions become the starting point for an exploration of the theory and practice of disciplinary literacies informed by social semiotic theory. In answering these three questions, this research explores the challenges and opportunities faced by literacy researchers when working with teachers to try to build shared understandings about language and to improve student achievement in HSC writing assessment tasks in subject areas.

1.5 Overview of theories informing this research

To address the first research question about the literacy demands of Business Studies and Music, SFL, developed by Michael Halliday, provides a rich theory and analytical tools for close examination of HSC responses. However, linguistic analysis alone is not enough to answer the second and third research questions, about how teachers address the literacy demands of their subjects and why teachers did not engage with the literacy intervention. For this purpose, sociological theories of Basil Bernstein will also be engaged, in a ‘transdisciplinary’ approach (Hasan, 2005). SFL and Bernstein’s sociological theories have been productively applied to the study of language in

education, knowledge and pedagogy across a variety of contexts over recent decades. Both theories spring from a shared concern with a more equitable distribution of knowledge and power in school, and in society, and both see language education as central to this project. Each of these frameworks will be briefly explained in this section.

1.5.1 Systemic Functional Linguistics

One of the goals of this study is to determine the literacy demands of Business Studies and Music, and specifically, to understand the characteristics of successful HSC examination answers. To achieve this goal, displays of disciplinary literacies need to be explored using an analytical framework that can describe the features of successful texts and also what they ‘mean’ in terms of the disciplinary discourse of Business Studies or Music. SFL can provide insights into disciplinary literacies by providing a theory of language as a social semiotic. Language has a central role in education because, in our culture, communicative practices of schooling are mostly conducted through and with language. Without language, it would be impossible to construe the knowledge of secondary school subject areas like Business Studies or Music or to create a written HSC examination response. In Halliday’s words, ‘(s)chool knowledge is prototypically made of language’ (Halliday, 1998/2004, p. 25), so understanding of disciplinary knowledge requires understanding of how language is structured and how it is used. Language is a social semiotic which is a ‘resource for making meanings’ (Halliday, 1978, p. 192). The meanings of interest to this research involve the disciplinary knowledge of Business Studies and Music, and how this knowledge is construed in the syllabus and in successful HSC answers. Meanings like this are closely related to their contexts, that is, to the context of the HSC examination and to the culture of secondary schooling. This relationship between meaning and context is one of the key principles of SFL, as semiotic resources do not reflect meaning but instead, actively construct

meaning in a social context. According to Halliday (1991, p. 17), language ‘does not just passively reflect a pre existing social reality. It is an active agent in constructing that reality’. This approach, of language as a social semiotic, shows the power of language in creating meaning in a social context like education, rather than being a simple ‘conduit’ for the transmission of knowledge (Reddy, 1993). Instead, language can be seen as ‘an instrument for achieving social life and manifesting the culture’ (Painter, 1999, p. 37), just as language can be used to construe the kinds of meanings that are valued by HSC markers in Business Studies and Music.

The current research can be seen as an endeavour to map the meaning potential of Business Studies and Music and to describe how students can actualise this meaning potential in examination responses. The ‘meaning potential’ (Halliday, 1978, p. 122) of Business Studies or Music is anything that could possibly be said or ‘meant’ about these two subjects. School education can be considered a process by which students gain increasing access to more of the meaning potential of the discipline. In order to succeed in the HSC examination, students draw on this meaning potential and actualise it in increasingly sophisticated ways in written responses. In this way, learning ‘can be regarded as a semiotic phenomenon if we conceptualise it as an ability to access and utilise a new meaning potential’ (Hasan, 1996, p. 233). By viewing literacy as a semiotic phenomenon, SFL can help to build understandings not only about successful HSC answers but about the contexts for these texts and about the disciplines from which they draw.

To understand the literacy practices of a subject, a number of key questions need to be addressed, including: What is Business Studies or Music about? What kinds of questions do students have to answer in the HSC examination? Who is the audience that

students are writing for in the HSC examination? What are students expected to achieve in their writing? How are they expected to present their answers? What visual elements, such as notations, can they include in their answers? To answer these kinds of questions about disciplinary literacies in Business Studies and Music, four key concepts in SFL will be briefly outlined: metafunctions, realisation, contexts (register and genre) and instantiation.

To understand what kinds of texts students have to write, three perspectives on meaning are available, known as *metafunctions* (Halliday & Matthiessen, 2004). Any instance of language such as an examination answer realises three simultaneous kinds of meaning – ideational, interpersonal and textual. Ideational meaning involves how the world is represented, interpersonal meaning concerns the kinds of social relationships being enacted, and textual meaning concerns how a text is organised as a coherent message.

Analysis of these three functions can therefore reveal what each subject is about, how successful answers relate to their audience and how ideas are structured and organised – all critical aspects of disciplinary literacies. One aspect of ideational meaning is known as experiential meaning which concerns the field of the topic: what is happening and the participants (people and things), processes and circumstances involved. Understanding of experiential meaning is crucial for describing how the fields of Business Studies and Music are construed in the syllabus and in student writing. Another aspect of ideational meaning is logical meaning, which reveals how meanings in a text are linked and connected. This aspect of meaning will prove to be critical in understanding the fundamental reasoning employed in the discipline of Business Studies.

By specifying how the metafunctions are differentially configured in successful HSC texts, it is possible to bring characteristics of disciplinary writing to light, and also to help teachers and students to negotiate these differences in teaching and learning. These differences can be seen by exploring ideational meanings that realise field (the participants, processes and circumstances involved); interpersonal meanings that realise tenor (Mood patterns and patterns of evaluation); and textual meanings that realise mode (how a text is organised). Together, configurations of field, tenor and mode are known as 'register'. Different configurations of these register variables have been found in the disciplinary literacy practices of a variety of secondary subject areas (e.g. Fang, Schleppegrell & Cox, 2006; Halliday & Martin, 1993; Hasan, 1996). By analysing register variables, then, it is possible to characterise the distinctive literacy demands of Business Studies and Music.

Another aspect of SFL theory explains the social purpose of writing in Business Studies and Music, or what an examination response is trying to achieve in the context of the discipline. While register describes specific aspects of the immediate context, the more general purpose of a text can be described as *genre*. According to the Sydney School (J. R. Martin & Rose, 2008; Rothery, 1994), genre describes the purpose of a text, that is, what kind of job it performs in the culture. Examples of these kinds of purposes include persuading, exchanging information and explaining. In schooling, genres are typically realised in types of texts, such as arguments, reports or explanations (J. R. Martin & Rose, 2008). Sydney School genre theory is very important to this research as it underpins the Australian curriculum and the analytical approaches in this thesis. Writing in the Business Studies HSC will be seen to be mainly explanatory while Music answers are descriptive, purposes that will be shown to provide insights into the ways of knowing that are valued in each discipline.

If we think of an examination answer as a text, *realisation* provides a perspective on different levels or strata of meaning in the language of that text. Firstly, discourse concerns meaning at the level of the whole text. Whole texts are made up of smaller units of meaning in the form of sentences and clauses, at the level of lexico-grammar. Clauses are made up of patterns of sounds and letters, known as phonology and graphology respectively. Patterns at different strata relate according to realisation rules, which means that patterns of meaning in whole texts (discourse) are realised by patterns of meaning in clauses (grammar) which are in turn realised through patterns of meaning in words and sounds (phonology/graphology) (Halliday & Matthiessen, 2004, p. 26). This means that configurations of language are configurations of meaning, as an analysis of lexico-grammar of a text is ‘necessarily an interpretation of the meaning of the text’ (Painter, 1999, p. 53). In this way, realisation rules help to explore *what* Business Studies texts and Music texts ‘mean’ and also *how* they ‘mean’.

Another perspective, *instantiation*, describes the relationship between instances of language in use (such as an examination answer) and the total meaning potential of the discipline and the culture. Each HSC examination answer can be considered as an ‘instance’ that incorporates particular choices from a system of meaning potential (Halliday & Matthiessen, 2004, p. 27). In this way, each of the successful answers analysed in this research is an instance of the meaning potential of Business Studies and Music. Every examination answer for the HSC has a relationship with the system of meaning potential as the student ‘builds a version of the system that is particular to the text being generated’ (Halliday & Matthiessen, 1999, p. 384). By examining what choices a student makes from available options, both the student’s selections and the system itself are revealed. This concept is particularly relevant for describing which

options are taken up in successful answers, compared with less successful ones, thereby helping to determine the characteristics of 'Band 6' HSC answers.

Many successful Music answers contain language as well as various forms of traditional and non traditional music notation, diagrams, graphs and tables. Images like these are also semiotic resources that construe musical meaning. A branch of SFL known as Systemic Functional Multimodal Discourse Analysis (SF-MDA) has developed to help explain how images 'mean', along with other semiotic resources including musical sound, gesture and space (Kress & van Leeuwen, 2006; O'Halloran, 2008; Unsworth, 2001; van Leeuwen, 1999). SF-MDA applies the key concepts of SFL to multimodal texts so these theories enable the same approach to discourse analysis of both language and image in this thesis. In particular, the current research draws heavily on the work of Kress and van Leeuwen (2006) for a grammar of images, van Leeuwen (1999) for system networks that describe the meaning potential of music, and Painter, Martin and Unsworth (2013) for a model of intersemiosis that examines the relative contributions of images and language to a text.

While SFL and SF-MDA are rich resources for describing disciplinary texts and what they 'mean', additional analytical frameworks from sociology provide perspectives on teaching and learning of disciplinary literacies in schools. This additional perspective will help to address the second research question about how teachers address the literacy demands of their subject and also the third research question that asks why some teachers did not engage with the literacy intervention.

1.5.2 Sociological theories of education

One of the aims of this research is to examine different forms of disciplinary knowledge – in the syllabus, in student writing and in classroom discourse, and to explore how this knowledge is shared with students. To achieve this aim, an analytical framework is needed to help explain features of the dynamic schooling environment. Bernstein's sociological theories offer a complementary perspective to linguistic theories, as they focus on social forces at work to shape disciplines and distribute disciplinary knowledge. Both SFL and Bernstein's sociological theories share an interest in education and disciplinarity, the nature of knowledge, disciplinary discourse and how subjects 'build their knowledge in different ways' (Christie & Maton, 2011a, p. 5). Bernstein's theories are more concerned about how society reproduces itself and changes, the role of education in this process, as well as the power relations involved. Bernstein's theories focus on 'the production, reproduction and transformation of culture' (Bernstein, 1990, p. 180). Some aspects of Bernstein's theories offer ways of explaining 'how the pedagogic discourses of schooling work, how access to forms of knowledge is made available, how such forms are variously distributed to persons in a culture and how they function to shape consciousness' (Christie, 2005, p. 24). Consequently, Bernstein's theories draw attention to social aspects of language and learning in the disciplines, which is helpful as this research attempts to theorise how teachers can share knowledge of content and of writing with their students.

To understand the nature of the disciplines of Business Studies and Music, Bernstein's theories offer perspectives on the structuring principles of knowledge in disciplines. Bernstein conceptualised the 'pedagogic device' which describes the different forms of knowledge in various educational fields, such as universities, curriculum authorities and schools (Bernstein, 1990). These perspectives can explain how disciplinary knowledge

in the syllabus differs from knowledge in examination answers or in classrooms and how knowledge is transformed and distributed from one field to another. In addition, the current research seeks to explain how teachers are prepared for written assessment tasks. Bernstein's theories of classification and framing (Bernstein, 1977) also help to highlight the role of the teacher in 'initiating, facilitating and structuring the pedagogic relationship' (Christie, 2005, p. 162) in the classroom.

One of the themes that emerged in the intervention stage of the current research involved teachers' beliefs about their subject and its literacy demands, as well as attitudes to their students. To analyse this data, an analytical framework is needed to interpret teachers' motivations, beliefs and attitudes. For this objective, we turn to developments of Bernstein's theories by social realists (Maton, 2014; Moore, 2009, 2011; Muller, 2007, 2011). One social realist theory, Legitimation Code Theory (LCT), provides a helpful analytical tool known as Specialisation. LCT builds on aspects of Bernstein's later theories on knowledge by adding an additional dimension: knowers. LCT is based on the premise that all dispositions and practices in a field 'are about or oriented towards something by someone' (Maton, 2014, p. 29). By focusing on knowers as well as knowledge, unexpected research events during the intervention can be explained, with teacher attitudes and beliefs accounted for in a theoretically principled way.

There is a history of dialogue and collaboration between Bernstein's sociological theories and SFL (e.g. Christie & Maton, 2011b; Hasan, 2005; J. R. Martin & Rose, 2008; Rose & Martin, 2012; Williams, 2005, 2009). Recently, several SFL research projects have also involved collaboration with LCT (Christie & Macken-Horarik, 2007; Christie & Maton, 2011b; T. Gill, Maton, Martin, Unsworth & Howard, 2013; Macken-

Horarik, 2011; J. R. Martin, 2013; J. R. Martin, Maton & Matruglio, 2010; Matruglio, 2013). These collaborations have provided complementary perspectives on research problems, especially in education, as will be explored in the literature review.

This overview of the linguistic and sociological approaches previews the explorations that will unfold in this thesis. Analytical frameworks from SFL and SF-MDA will explore the features of successful HSC writing in Business Studies and Music. In a complementary way, perspectives drawn from LCT will help to explain why the literacy intervention in this research was embraced by some teachers and resisted by others. In this way, these two theoretical perspectives shine different lights on the issue of effective teaching of disciplinary literacies in secondary schools.

1.6 Outline of each chapter

A critical review of the literature in Chapter 2 will show how little is currently known about the disciplinary literacies of Business Studies or Music. Firstly, the review will present theories of the nature of disciplinary knowledge, particularly in relation to secondary schooling. Next, research in disciplinary literacies will be evaluated, revealing gaps in our understanding of the literacy practices of Business Studies and Music. The third area of attention involves teacher quality, teacher knowledge and teacher attitudes and beliefs. This area of investigation will contextualise the intervention stage of this research and review current models of the teacher knowledge base which do not adequately account for teacher attitudes and beliefs.

Chapter 3 outlines the research methodology for this project in two stages – discourse analysis and a literacy intervention. The first stage, discourse analysis, investigates the linguistic and semiotic features of successful HSC answers. The selection of texts and

analytical approaches for discourse analysis will be explained, along with key concepts in SFL and SF-MDA. The second stage, a literacy intervention, explores teacher knowledge of disciplinary literacies and effective pedagogies. The methodology will explain the rationale for five case studies and the use of the analytical tool of Specialisation that will help to explain unexpected research events.

Chapter 4 presents a description of the language features of successful HSC examinations in Business Studies and Music based on SFL discourse analysis. These findings provide insights into the disciplinary nature of each subject as well as describing the language features of successful answers, culminating in a ‘research map’ which outlines the main linguistic features of answers that achieve high marks. This research map will be used as the basis of the intervention described in Chapter 6.

The multimodal nature of HSC answers in Music is explored in Chapter 5. The chapter commences with a review of literature related to graphic notation in music. Next an analysis of student texts using SF-MDA then becomes the basis, first, for preparing a typology of music images and, second, for evaluating the relative semantic contribution of language and image in successful HSC answers.

Chapter 6 introduces the second stage of the research: the intervention. It presents case studies of the five teachers teaching the intervention classes, three Business Studies teachers and two Music teachers. The first section of this chapter explores the teachers’ understandings of disciplinary literacies and describes the typical ways in which teachers prepare students for written assessment tasks. The second section recounts the literacy intervention and explains how students and teachers engaged with lesson plans designed around the explicit teaching of the features of successful HSC answers. The

impact of the intervention on student work is evaluated, with close analysis of work from students who participated in the research.

Chapter 7 is a detailed discussion of the intervention. This chapter aims to explain why the intervention was embraced by some teachers and resisted by others. An analytical tool, LCT (Specialisation), is used to identify teacher orientations to knowers as well as knowledge, revealing a series of code clashes and code matches that may account for teacher behaviour and provide insights into the potential challenges of classroom based literacy research.

Finally, Chapter 8 synthesises research findings and presents conclusions. A model of a teacher knowledge/knower base, building on various models of PCK (Darling-Hammond & Bransford, 2005; Love, 2009; Shulman, 1986), is used to integrate attitudes and beliefs required for the implementation of effective literacy pedagogy in the disciplines. Limitations of the research will also be discussed along with directions for future research. Finally, the implications of these findings for teachers of Business Studies and Music will be presented, along with recommendations for enhancing the teaching and learning of disciplinary literacies in Business Studies and Music so the academic achievement of all students is supported.

CHAPTER 2: Critical review of the literature

2.1 Organisation of the literature review

Language, knowledge, teaching and learning are key themes of this review of the literature. To contextualise the investigation of disciplinary literacies in secondary schooling, this review covers three areas of research. Firstly, Section 2.2 ‘Knowledge, disciplines and learning’ synthesises what we know about disciplinary knowledge, and the relation between academic disciplines and subjects taught in schools. Cumulative learning in disciplines will also be addressed, as this is critical to success in secondary schooling and in the HSC examination. This section shows the gaps in understanding of disciplinary knowledge that will be addressed by the current research.

The second part of the review, Section 2.3, addresses what we mean by the term *disciplinary literacies*. A review of research into secondary school disciplinary literacies will be undertaken, and an overview provided of contemporary research projects which aim to embed knowledge about language in the subject areas. The importance of multimodal literacies in the subject areas will also be raised, to contextualise the exploration in this study of multimodal music texts. In addition, pedagogies of disciplinary literacies will be introduced. The resources of Systemic Functional Linguistics (SFL), that drive the discourse analysis in this research, are not covered in this review but will be expanded in Chapter 3 and Chapter 4.

Section 2.4 ‘Teacher knowledge, attitudes and beliefs’ shines the spotlight on teachers by addressing research into teacher knowledge about language and literacy. This section also addresses the body of research that demonstrates that teachers’ attitudes and

dispositions are key factors impacting on student achievement. The commonly used framework of Shulman's Pedagogical Content Knowledge will be introduced to account for what teachers have to know and do in order to be effective. This framework, however, will be shown to be incomplete because it is missing the dimension of teacher attitudes and beliefs, an important dimension for understanding the enacted curriculum and effective teaching and learning. Additional explanatory power will be added to this discussion by involving sociological theories of LCT (Specialisation), which have provided analytical tools for the intervention stage of this research.

Finally, a brief conclusion to this review (Section 2.5) will synthesise the gaps in understanding which will be addressed by this research.

2.2 Knowledge, disciplines and learning

This review commences with an exploration of the concept of disciplinary knowledge. In education, sharing and building knowledge is a prime concern. In fact, it is 'the creation, curricularisation, and teaching and learning of knowledge which make education a distinctive field' (Maton, 2014, p. 3). The term *knowledge economy* recognises that successful economies are:

... increasingly based on knowledge and information. Knowledge is now recognised as the driver of productivity and economic growth, leading to a new focus on the role of information, technology and learning in economic performance (Organisation for Economic Co-operation and Development, 1996, p. 3).

Societies rely on education systems to build this knowledge but there are varying views on the kinds of 'information, technology and learning' that are most important in schooling. To address this issue, educational systems rely on academic disciplines to determine what knowledge should be taught and learnt in schools.

Concepts of knowledge and disciplinarity are closely related. Disciplines can be identified by the way they define knowledge, what they focus on, what is considered to be true and false and how claims to knowledge are evaluated. Disciplines have ‘developed norms that are applied to the question of how it is that human experience can be converted into knowledge, and how that knowledge can be appropriately disseminated’ (Freebody et al., 2008, p. 191). For example, Business Studies and Music are different in the way they ‘define, present and attempt to solve problems’ (MacDonald, 1994, p. 22). In Music, the ‘knowledge puzzle’ (MacDonald, 1994, p. 24) concerns how to create, arrange, share and describe musical sound as well as to explore what music ‘means’. Business Studies, on the other hand, involves financial and economic activities of commercial entities, and the central concern is whether businesses succeed and fail in the marketplace – a very different preoccupation from the discipline of Music.

Disciplines are made up of people who interact and communicate about common concerns and objectives in mutually coherent ways. Disciplines like Business Studies or Music can be understood ‘as social fields of practice comprising both relatively formal structures of knowledge and practices, and actors who share interests and norms (whether explicit or tacit) of knowledge production and communication’ (Freebody et al., 2008, p. 191). Rather than an objectivist notion of knowledge as ‘fixed and universal’ (Ellis, 2007, p. 449), disciplinary knowledge is instead fluid, evolving and dynamic (Moore, 2011). However, there is a tension between the freedom of social processes and the existence of rules to be followed in a discipline. To some extent, learning disciplinary knowledge involves ‘restriction of freedom in relation to both what is learned and how it is learned’ (Feez, 2011, p. 151). Ellis explains that learning in a subject is ‘a process of being disciplined into the ways of thinking and feeling about

subject concepts, a process of both regulation and innovation that is intrinsically a collective activity' (Ellis, 2007, p. 450). For instance, the syllabus documents of Business Studies and Music regulate disciplinary knowledge in secondary schools while assessment support documents specify how mastery of knowledge is to be evaluated. Even so, there is the possibility for innovation in these disciplines. For example, many successful HSC answers for Music include a range of graphic notation and diagrams to convey musical meaning even though these are not mentioned in the syllabus. In Chapter 6, images will be shown to be a form of social 'grass roots' innovation that has emerged in the literacy practices of high achieving students and their teachers. In this way, although knowledge in a discipline consists of norms and rules, it also has the potential for change, innovation and progress (Anderson & Valente, 2002). This thesis is interested in mapping the terrain of disciplinary knowledge in Business Studies and Music, both in terms of official rules and the unofficial knowledge demonstrated through the literacy practices of the HSC examination.

The disciplines of secondary school subjects, the focus of this research, are not the same as academic disciplines in universities. Knowledge in the academy differs between departments or faculties, and the knowledge in any faculty is also different from educational knowledge taught in a secondary school classroom. These differences can be conceptualised with the help of Bernstein's sociological theories. Bernstein's theories help us to 'see' different versions of knowledge in disciplines like Business Studies or Music. Bernstein (1990) typologised disciplines as either 'singulars' or 'regions'. Singulars are traditional disciplines, such as Science, which are clearly bounded and separate from other disciplines. These are the traditional subjects from the nineteenth century university (e.g. Physics and Chemistry) which became core subjects in schools after the industrial revolution (Muller, 2011). Traditionally, Music can be

seen as a singular. This is because Music has a long history as a discipline dating from Ancient Greece and Rome. It was also taught in Medieval universities as part of the Quadrivium, alongside arithmetic, geometry and astronomy. The Quadrivium complemented the three disciplines of the Trivium: grammar, logic and rhetoric. An early music treatise, Boethius's (c.520/1989) *De institutione musica* (Fundamentals of Music), categorised three classes of musician: those who perform, those who compose and those who form musical judgements using reason. These are the bases of the strands of the discipline of Music – performance, composition and musicology (analysis) – which remain entrenched in university and school Music courses today. The current research concerns one of these strands – musicology – which involves listening to and analysing music.

Bernstein's second type of discipline, a region, is less strongly separated from other disciplines and more focused outwards towards a profession or field of practice (Muller, 2011). Regions include professions such as tourism and business, each of which can be connected to several singulars and which have evolved to be more closely connected to practice than theory. Business Studies seems to fit these criteria. Business Studies belongs with social sciences, along with its close relative, Economics. Historically, the work of Adam Smith (1776/1904) is seen as the beginning of the discipline of political economy as 'an inquiry into the nature and causes of the wealth of nations' and by the late nineteenth century, Economics was concerned with the scientific and social aspects of supply and demand (Marshall, 1890). In the Australian curriculum, Economics is described as 'the study of the production, distribution and consumption of wealth in human society' while Business involves 'all activity by the producers and suppliers of goods and services, and the enterprising endeavours that our society undertakes to meet our needs and wants' (Australian Curriculum Assessment and Reporting Authority

[ACARA], 2012b, p. 5). In terms of how the two courses relate, 'Economics is seen as the underpinning discipline, and Business is where the economic concepts apply across a range of business contexts' (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013a). This preoccupation with 'applied' business principles can be seen in the focus on case studies in every Business Studies topic and in every examination answer.

Influences from these disciplines can be seen in the content knowledge requirements laid out in the secondary school syllabus documents. Nevertheless, secondary school subjects are selective and reduced versions of the academic disciplines from which they draw. In fact, knowledge about a discipline is quite distinct, depending on where it is located. Knowledge about Music, for instance, is represented in different ways in a conservatorium, in the Board of Studies, and in a secondary school classroom. To theorise how knowledge differs in these different 'fields', Bernstein developed a symbolic framework called 'the pedagogic device' (1990). The pedagogic device describes organising principles for where disciplinary knowledge is created and how it is shared and transformed between universities, educational authorities and schools. In terms of locations for knowledge production, Bernstein (1990, pp. 191-192) identified three fields or sites where disciplinary knowledge is generated:

- fields of production: mainly universities and research institutes where knowledge is created;
- fields of recontextualisation: government education authorities and curriculum authorities where the syllabus is designed; and
- fields of reproduction, such as schools and classrooms where knowledge is taught and assessed.

This way of thinking about disciplines shows us that a study of disciplinary literacies in secondary schools will focus on the fields of recontextualisation and reproduction. In other words, the current research is not concerned with the field of production, where academic knowledge about disciplines is generated. Accordingly, this thesis is not concerned with how to write like an academic musicologist or like an economist or finance expert. Instead, this research centres on how each discipline is recontextualised in secondary school Business Studies and Music syllabus documents, then reproduced in classrooms and in HSC examination responses.

In Bernstein's framework, the field of recontextualisation is modelled in two parts: the Official Recontextualising Field (ORF) and the Pedagogic Recontextualising Field (PRF). The ORF consists of government ministries and authorities, such as ACARA and the NSW Board of Studies, which mandate what is to be studied in school subject areas and how subject areas are to be assessed and evaluated, while the PRF involves the creation of text books, teaching materials, learning frameworks and units of work. The field of reproduction is where lessons are taught, and where students learn, and where students respond to assessment tasks, such as the HSC examination answers. So, to be even more specific about disciplinary knowledge, this research focuses on documents from the ORF (syllabus materials), the PRF (lesson plans and teaching materials) and the field of reproduction (student writing). In addition, the intervention stage of this research, taking place in five classrooms, entirely concerns the field of reproduction.

Knowledge not only exists in different forms, as modelled in the pedagogic device, but it is also transformed as it is recontextualised from one field to the next. According to Bernstein (1990), the way knowledge is transformed is determined by three sociological

'rules'. Distributive rules determine how different kinds of knowledge are shared out in a society, an unequal distribution that echoes divisions of labour. Recontextualising rules govern the way knowledge produced in one field is transformed in another field. These recontextualising rules are essential for understanding how the knowledge of the field of production (in universities) is transformed into a syllabus document and then into lesson plans. The third type of rules, evaluative rules, govern how achievement is assessed, and how success or failure is determined. This thesis is interested in distributive and recontextualising rules, the rules which regulate knowledge flow between the official curriculum, its enactment in classrooms and its reproduction in assessment. Even though the topic of curriculum development is important, there is no data in this research to support exploration of how the syllabus documents of Business Studies and Music came to be. This is because the syllabus documents were developed many years ago behind closed doors. Instead, the syllabus documents of Business Studies and Music will be scrutinised as artefacts of knowledge from the ORF, to evaluate how the disciplines are represented as secondary school subjects. Then, in Chapter 4, these official documents will be compared with the work students create in the classroom and in the HSC examination (in the field of reproduction). This analysis will reveal a mismatch between what students are reproducing in successful examination answers and the knowledge recontextualised in syllabus documents.

The syllabus documents themselves will be shown to be problematic sources of disciplinary knowledge, largely because they are arranged in dot points. As will be shown in Chapter 4, these dot points represent learning in the form of minimally related segments. These abbreviated lists will be shown to be inadequate for understanding the relations between areas of knowledge. For example, the dot points in the Music syllabus do not reveal the relations between concepts of music, even though these relations must

be retrieved if a student is to write successful answers in the HSC examination. Similarly, the dot points in Business Studies do not explicitly identify profitability as the objective of business, even though this idea is a central concept students must incorporate into their HSC answers. The implications of a dot point based syllabus in these subjects will be problematised throughout this thesis, suggesting that dot points provide scant support for teachers and students in building deep and cumulative knowledge. For this reason, the dot points are of limited help in preparing students for the writing tasks of the HSC examination.

Syllabus documents on their own cannot accurately convey what goes on in classrooms. As explained by Luke (2010, p. 41), the ‘official curriculum comes to ground via an *enacted curriculum* of teaching and learning events “lived” by students and teachers’ (original emphasis). This is why the current research not only involves text analysis but also explores sites of teaching and learning in the field of reproduction. To adequately explore the realities of teaching, teachers’ subject knowledge is also important to consider. Teacher knowledge has commonly been described as PCK – pedagogical content knowledge – or how content knowledge and pedagogical knowledge intersect in the practice of good teachers (Shulman, 1986, 1987). In this thesis, however, Shulman’s version of teacher knowledge is contested and will be critiqued and explored later in this chapter, particularly in reference to literacy practices. Another key contextual feature of schooling relevant to the thesis is the tendency for pedagogies to focus on learners rather than on the knowledge to be learnt, a scenario with significant implications for conceptions of disciplinary knowledge and for teachers’ knowledge base.

2.2.1 Progressivism and constructivism: Focusing on learning rather than knowledge

An influential educational approach that highlights the importance of learners, and minimises the significance of knowledge in schooling, has come to be known as progressivism, and in recent decades, as constructivism. In this discussion, the term *progressivism* will be used to describe pedagogies that are ‘student centred’ and oriented towards individual creativity and personal experience (Green & Gredler, 2002; Murphy, 1997). Progressivist teaching focuses more on the nature of students as learners rather than on distinctive curriculum knowledge (Freebody et al., 2008, p. 189). In progressivist pedagogies, learning activities tend to be generalised across subject areas and downplay differences between disciplines. Instead, knowledge is seen ‘as a purely cognitive process that takes place inside a head’ which makes learning ‘an individual act and knowledge an individual property’ (Ellis, 2007, p. 451). This creates a view of knowledge as entirely subjective, with accounts of learning focusing on thinking, acting and being, and on the learner’s social circumstances (Moore, 2009). In this model, knowledge is ‘reduced to an epistemology of the knowing subject’ (Moore, 2013, p. 341) and leads to ‘*knowledge blindness*’ (Maton, 2014, pp. 4, original emphasis), leaving the exact nature of knowledge downplayed and under researched.

Proponents of progressivism present the approach as an alternative to traditional pedagogies of the past. The polarisation of these two approaches to teaching is illustrated in two case studies presented by Cope and Kalantzis (1993, pp. 38-40). The first case study describes a traditional lesson in subject English, where students sit quietly in rows, answering teacher questions about figurative language in poetry then taking notes about a sonnet. This kind of traditional pedagogy is seen as old fashioned, irrelevant and teacher dominated. The second case study, in contrast, is a progressivist

lesson in Commerce, where students sit in groups and collaborate on self directed activities, to write plays and to prepare posters and advertisements on the general theme of barter. In the Commerce classroom, students were far more engaged than in the English classroom, but the lack of focus on explicit knowledge meant that, over three weeks, ‘the majority of the students in this class had produced not a word of text, and most had learnt next to nothing of the discourse of commerce’ (Kalantzis & Cope, 1993, p. 55). The consequences of the loss of focus on knowledge, as illustrated in the case study, has not been addressed by proponents of progressivist pedagogies. Instead, they tend to justify the focus on learners at the expense of knowledge on the basis of limitations of traditional pedagogies.

A major consequence of progressivist pedagogies has been the loss of emphasis of knowledge about language and the application of this knowledge to literacy development. From the 1970s onwards, in most Anglophone countries, linguistically informed knowledge about language was removed from school curricula and educational programs as a result of debates over its educational utility and value, a process described in detail in *Beyond the Grammar Wars* (Locke, 2010). As a consequence, most students in the late twentieth century in Australia learned little about language and grammar at school. The teaching of literacy, including writing, in this era was strongly influenced by ‘whole language’ (Goodman, 1986) and ‘process writing’ (Graves, 1983; Hayes & Flower, 1986). These approaches encouraged student writers to choose their own topics and to focus more on the *process* of writing (i.e. drafting, conferencing, editing) rather than on language *content*, the resources used to construct ideas (Painter, 1986).

Progressivist methods, supported by Piaget's theories of cognitive development, are based on the understanding that literacy develops according to natural stages in a child's cognitive development, and, thus, poor literacy skills are a consequence of cognitive immaturity rather than lack of skills, knowledge or practice (Piaget, 1973). From this point of view, the child's literacy development has little to do with direct teaching, so the teacher's role becomes that of a 'facilitator of learning' (Green & Gredler, 2002, p. 59) rather than an explicit instructor. As illustrated in the Commerce case study cited above, instead of explicitly teaching, teachers design student centred learning activities according to a constructivist checklist (Murphy, 1997), and students proceed at their own pace.

Progressivist approaches are portrayed by Bernstein (1975) as 'invisible' pedagogy because the knowledge to be learnt is implicit, the rules for sequencing of teaching activities are unstated, and the criteria for assessment are hidden. The relations between knowledge and pedagogy in a progressivist classroom can be described using Bernstein's concepts of classification and framing (1977). Classification refers to the relative strength of boundaries between categories of knowledge, while framing refers to the extent of teacher control over the pedagogy. A lesson involving process writing, for example, involves weaker classification of knowledge as students can choose their own topics to write about that may not be connected to the curriculum. As the teacher is only a facilitator and does not give explicit guidance to students about what or how to write, framing is also weaker. Social realists have developed these ideas further (Maton, 2014), by suggesting that progressivist pedagogies provide a stronger orientation towards 'knowers' by foregrounding the learner and downplaying what is to be learnt (the 'knowledge'). Invisible pedagogies are still pervasive as illustrated by the fact that

three of the five teachers participating in the current research espoused progressivist views.

Progressivist theories of learning, although dominant in many school systems (Muller, 2002), have not been linked with improved academic achievement for all students. In fact, many groups of students are failing to achieve, especially those from backgrounds of social disadvantage and from language backgrounds other than English (Boston, 2013; McGaw, 2009; Rowe, 2005; Teese, 2011; Teese & Polesel, 2003). Students from culturally and linguistically diverse backgrounds, up to a quarter of the cohort of Australian students (Hammond, 2012), not only have to learn the English language for everyday communication purposes, but also the ‘literate talk’ (Gibbons, 2009) of subject specialties, along with the ability to read and write disciplinary texts. These students face a ‘dual challenge of learning academic English while also learning through English’ (Hammond, 2012, p. 226). Learning language in a mainstream classroom is particularly difficult if teachers have limited knowledge of language. As products of progressivist teaching themselves, most teachers ‘have a good grip on Standard Australian English which comes naturally to them. But they don’t know how it works, and they usually cannot make their intuitive knowledge explicit to those who don’t have it’ (Adoniou, 2013). The lack of knowledge of language among teachers is problematic because, without explicit teaching of language, many students are unable to ‘pick up’ what they need to know to succeed in schooling (Gibbons, 2009, p. 8). Improving the academic achievement of all learners, including those from backgrounds of social disadvantage or languages other than English, has become the focus of research, leading to explorations of alternatives to the implicit pedagogies of progressivism.

Pedagogies where the teacher takes an active interventionist role, rather than being a facilitator, tend to be associated with improvements in student outcomes. Hattie's (2009) synthesis of over 800 meta analyses of student achievement, for example, found that teachers are among the most powerful influences on student learning. In order for students to learn effectively, Hattie (2012, p. 19) has shown that teachers need to take the role of 'evaluator and activator', and to make learning intentions and criteria for success visible to students.

Hattie's findings that student outcomes improve when teachers take a more interventionist role had been foreshadowed in several studies in Australia and New Zealand. For example, a large scale longitudinal study in Queensland (Lingard et al., 2001) identified 20 practices that support improved student outcomes, both academic and social. These practices, called Productive Pedagogies, incorporate the co construction of explicit knowledge between the teacher and students, the explicit naming of assessment criteria and the foregrounding of linguistic metalanguage and technical vocabulary (Lingard, Hayes & Mills, 2003, p. 410). Similarly, educational programs in New South Wales characterised by high quality pedagogy, explicit teaching and high intellectual challenge were also found to improve the academic achievement of all students, especially those from low socio economic status backgrounds (Gore, Ladwig, Griffiths & Amosa, 2007). At the same time, a New Zealand review of literature confirmed that literacy achievement is likely to be higher when teachers take an explicit role (Timperley, Wilson, Barrar & Fung, 2007), and that, in fact, 'explicit targeted teaching can raise the achievement of the lowest 20 percent, markedly' (Parr, Timperley, Reddish, Jesson & Adams, 2006). Further evidence linking the explicit teaching of literacy to improved student outcomes will be described in Sections 2.3.2

and 2.3.3, including the impact of Sydney School genre pedagogy (Rothery, 1994) on which the intervention lessons in this research will be based.

When a teacher takes on the role of authoritative expert, rather than facilitator, the result is a 'visible' pedagogy. In a visible pedagogy, knowledge to be learnt is explicitly stated and incrementally taught (Christie & Macken-Horarik, 2007). Achieving visible pedagogies requires teachers to have a high level of knowledge of the content to be taught and the skills to enable complex co construction of ideas and concepts with students. Visible pedagogies enable all students to gain 'access to and participation in academically valued social practice and the discourses by which they are constituted' (Bourne, 2003, pp. 510-511). The valued practices and discourses of disciplines have been described as discourse communities, a concept which will be explored next.

2.2.2 Disciplines as discourse communities

To redress some of the limitations of progressivist approaches to learning, academic disciplines have been considered as social fields of practice. Notions of schools as discourse communities (Gee, 1990) or communities of practice (Lave & Wenger, 1991) have become influential in educational research (Marsick, Watkins & Boswell, 2013). According to these views, disciplines are sites of human interaction where knowledge is socially constructed. The social activity that constructs knowledge involves 'particular norms for everyday practice, conventions for communicating and representing knowledge and ideas, and ways of interacting, defending ideas, and challenging the deeply held ideas of others in the discipline' (Moje, 2008, p. 108).

In this sense, each secondary school subject, including Music or Business Studies, is a discourse community with its own way of communicating, presenting ideas and interacting with others in the community. In a discourse community, teachers and

students take the role of ‘both a user and producer of knowledge within a set of social practices’ (Edwards, Gilroy & Hartley, 2002, p. 109). Many of these social practices involve language and literacy, as each discipline ‘has a shared way of using language and constructing knowledge’ (Rainey & Moje, 2012, p. 74) which is expressed through disciplinary literacy practices. By considering a discipline as a discourse community, literacy can then be seen as ‘an essential aspect of disciplinary practice, rather than a set of strategies or tools brought in to the disciplines to improve reading and writing of subject matter texts’ (Moje, 2008, p. 99).

Learning disciplinary knowledge can, therefore, be construed as a form of discourse apprenticeship. In the process of formal education, from the early years of schooling through to postgraduate study, learners are gradually familiarised with texts of increasing complexity to apprentice students into the discourse of fields of study (Christie & Martin, 1997). The student is an apprentice, ‘one who is initiated into ways of behaving, of knowing and of thinking, ways of identifying and responding to issues, ways of addressing problems and ways of valuing’ (Christie, 2005, p. 162). In secondary schooling, teachers apprentice learners by introducing them to a sequence of texts that gradually grow in complexity, from everyday ‘commonsense’ meanings to ‘uncommonsense’ meanings as embodied in specialist discourse (Christie & Derewianka, 2008). To achieve this goal, knowledge must be built purposely and incrementally, which brings the discussion to the issue of cumulative learning.

2.2.3 Building cumulative knowledge in disciplines

One of the main principles of curriculum organisation involves the gradual building up of knowledge over the years of schooling. As argued by Christie and Maton (2011a, p. 5), ‘a central dimension to disciplinarity is the capacity to build knowledge over time, both in terms of intellectual production and in terms of fostering and promoting the

understanding of students'. Secondary school teachers build subject knowledge from Year 7 to Year 12, in preparation for the HSC examination. Cumulative learning is, therefore, a critical concept for teaching as it describes the way students gain new knowledge to add to existing knowledge, and to deepen understanding of disciplinary concepts and ideas.

The concept of cumulative learning was introduced to educators in the form of the 'spiral curriculum' (Bruner, 1960/1977). This is a learning sequence in which 'topics are repeated across learning levels, but differently' (Muller, 2007, p. 81) so that past learning can be built on or expanded incrementally. A spiral curriculum has been found to be essential for quality learning. If learning gains are to be maintained, strong continuing support for student skill development is needed, as 'early investments (of learning) must be followed up by later investments to be effective' (Heckman, 2005, p. 4). The Australian curriculum emphasises cumulative knowledge building and, in this way, it supports a 'spiral' approach to learning. For example, in the *Australian Curriculum: English*, learning is described as 'recursive and cumulative, and builds on concepts, skills and processes developed in earlier years' (Australian Curriculum Assessment and Reporting Authority [ACARA], 2012a); in the *Australian Curriculum: the Arts*, knowledge building is also 'sequential and cumulative' (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013b, p. 3) and in the Shape Paper for the *Australian Curriculum: Economics and Business*, 'learning is cumulative and spiral in nature' (Australian Curriculum Assessment and Reporting Authority [ACARA], 2012b, p. 5). In other words, in all secondary school learning areas of the *Australian Curriculum*, the issue of how knowledge is built over time is central, raising questions for educators about how cumulative knowledge can be built effectively in the disciplines and how this relates to literacy practices.

Academic disciplines, according to Bernstein (2000), have different capacities for knowledge building, depending on their mode of development. Development of knowledge of a discipline can be structured either horizontally or hierarchically. When new knowledge is added to a discipline horizontally, it is simply placed alongside existing knowledge, so that ‘there is no necessary relation between what is learned in the different segments’ (Bernstein, 2000, p. 159). Segmental organisation is a feature of knowledge structures in the disciplines of the Humanities. In these disciplines, each new idea tends to be equally and separately valued. In contrast to the segmental organisation of horizontal knowledge structures, knowledge in more technical and scientific disciplines tends to be constructed hierarchically; in other words, knowledge in these disciplines is built cumulatively by integrating new knowledge into the whole.

The way hierarchical knowledge structures differ from segmented horizontal knowledge structures can be explained in terms of the features that characterise hierarchical knowledge structures: verticality and grammaticality (Muller, 2007). Verticality describes how new ideas or propositions are embraced and integrated with existing knowledge. In this way, verticality describes how hierarchical knowledge structures ‘integrate knowledge at lower levels, and in this way show(s) underlying uniformities across an expanding range of apparently different phenomena’ (Bernstein, 2000, p. 127). The second concept, grammaticality, in a sociological rather than linguistic sense, refers to the capacity of a theory to relate to empirical data in a coherent and systematic way.

The dot points in the syllabus tend to occlude grammaticality and verticality in Business Studies and Music. Business Studies is a hierarchical knowledge structure, as there is a complex body of knowledge about the nature of business and business activities that

students have to learn. In terms of grammaticality, learning the knowledge of Business Studies requires students to relate business theory to case study examples, requiring a ‘strong grammar’ (Bernstein, 2000). A ‘strong grammar’ has both a strong internal ‘language of description’, where business theory makes sense in describing itself, and a strong external ‘language of description’ where ‘concepts and data are related in relatively unambiguous ways’ (Maton, 2014, p. 127). Linking concepts and data in Business Studies, although specified as an important feature of the discipline, is not well supported by the syllabus. The syllabus dot points provide little direction for students or teachers in how to link business theory and compulsory case studies. Furthermore, the fundamental principle of profitability is not mentioned in the syllabus yet successful writers rely on this concept in examination answers.

The HSC Music course also has a hierarchical knowledge structure. Students need to learn about the concepts of music in great detail and technicality, as will be shown in Chapter 4. The syllabus, however, does not specify which features of concepts of music should be taught first, nor how they can be gradually introduced to students to maximise understanding. Instead, concepts of music are presented in brief point form, with little elaboration on how much technicality or detail is required in describing each aspect of music. Consequently, knowledge about concepts of music is presented as atomised dot points that are unrelated to other points, thus limiting the potential for verticality and cumulative knowledge building.

In order for cumulative learning to take place, students need to be able to ‘transfer knowledge between contexts and to build knowledge over time’ (Freebody et al., 2008, p. 193). This idea has led to the development of ways of ‘building’ verticality in subject areas which are traditionally characterised by segmental learning. Verticality can be

strengthened by making the features of a subject more ‘visible’ and therefore making their disciplinary requirements more explicit (Christie & Macken-Horarik, 2007). This is where knowledge about language comes in. By building knowledge about language, teachers and students can identify and name the features of successful examination answers, and also discuss the knowledge requirements of topic areas in a more coherent and sophisticated way. One of the contributions of this thesis is to provide a more principled and rigorous framework for teaching the subject knowledge of Music. The dot points that describe concepts of music are the starting point for developing a representation of the knowledge of Music in the form of system networks. System networks will overtly reveal the exact features of each concept of music and also show how different features are related. The system networks of concepts of music, introduced in Chapter 4 and presented in full in Appendix B, map the content knowledge requirements of HSC Music, as an end goal for cumulative knowledge building during secondary schooling.

The issue of cumulative learning in schooling is closely linked to disciplinary literacies because of the way student achievement is assessed. The HSC examination represents the culmination of 13 years of learning, the ‘top of the spiral’ in terms of schooling, where students have the opportunity to demonstrate their mastery of knowledge, and knowledge structures, in examination answers. In this high stakes examination, students undertake ‘assessment via a solo literate performance’ despite schooling itself being based on ‘group interactions’ (Freebody, 2013, p. 5). The solo literate performances are the means by which students demonstrate the extent of their learning and understanding of the knowledge of the disciplines. As a consequence, generic descriptions of language and literacy requirements are insufficient to support teachers and students in preparing for these assessments (Freebody et al., 2008). Instead, there is a need for ‘more specific,

actionable ways of talking about knowledge' (Freebody et al., 2008, p. 197) and representing knowledge in writing. This need has led to the development of the theories of disciplinary literacies central to the current research.

2.3 Disciplinary literacies

Literacy in the subject areas has been variously seen as a pan curriculum phenomenon rather than a discipline specific one. Reading and writing in different subjects has been labelled in different ways over time and in different geographical regions. In Australia and the UK, it has been called 'literacy across the curriculum' (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013c; Department for Education, 2013), suggesting a focus on syllabus knowledge, while in the USA, literacy programs have variously been called 'content area reading', 'reading across the curriculum' and 'academic literacy' (Stewart-Dore, 2013), placing the focus on the literate practice of reading in textbooks rather than on writing.

Programs in literacy across the curriculum and content area literacies involve generic strategies and skills that can be applied to any subject area. For example, one cross curriculum reading strategy involves predicting, setting goals and testing predictions (Lee & Spratley, 2010). However, while generic strategies like predicting have been proven to be useful for some students in developing study skills and general approaches to academic reading (Stoller, 2004), these strategies are based on the assumption that reading in Science or Music or Business Studies is the same practice involving differences in content only (Shanahan & Shanahan, 2012). Downplaying disciplinary differences in this way is said by critics of cross curriculum literacy strategies to alienate subject area teachers (Moje, 2008). In reality, both perspectives are true: there are some commonalities in reading or writing certain texts across the curriculum, and

there also can be significant differences. For example, some genres of writing, such as arguments, are used in several subject areas (Christie & Derewianka, 2008; J. R. Martin & Rose, 2008). As persuasive writing is currently the focus of the writing composition assessment in the Australian National Assessment Program (Australian Curriculum Assessment and Reporting Authority [ACARA], 2011), some whole school literacy research projects have taught students how to write expositions and discussions in several subject areas including English, History, Commerce and Geography (Humphrey & Robinson, 2012). Similarly, successful written texts in both Business Studies and Music share common features, as will be shown in this study. These shared features include the use of headings to preview new information and the positioning of the student author as sole authority.

While successful written texts across the school subject areas share generic features, the deployment of language in each secondary school subject area is also distinctive. As students learn the distinctive features of the language of each subject area, they are learning ‘disciplinary literacy’ (Shanahan & Shanahan, 2008). Disciplinary literacy ‘emphasises the unique tools that the experts in a discipline use to engage in the work of that discipline’ (Shanahan & Shanahan, 2012, p. 8). To understand and use these unique disciplinary tools, teaching and learning of disciplinary knowledge includes teaching and learning the language of the discipline. In this way, teaching ‘builds an understanding of how knowledge is produced in the disciplines, rather than just building knowledge in the disciplines’ (Moje, 2008, p. 97). This involves learning how to make the ‘link between the “content” and the language through which it is constructed’ (Achugar, Schleppegrell & Oteiza, 2007, p. 11), requiring a particular kind of metalanguage, or language for talking about language. Learning a metalanguage on its own is not enough to support the development of disciplinary literacies (Myhill, Jones

& Watson, 2013), just as knowing how to label a noun on its own does nothing for the learning of content knowledge. Instead, a metalanguage needs to be ‘embedded’ (Myhill, Jones, Lines & Watson, 2012) in the discipline and ‘situated in instructional contexts where it resonates with and helps support content goals’ (Schleppegrell, 2013, p. 158). This thesis will propose that metalanguage of this kind can support cumulative learning as well as the development of the literacy skills students need to demonstrate what they have learned. The proposed metalanguage will be drawn from SFL.

A linguistic analysis based on SFL enables the identification of distinctive language features at many levels, from the text as a whole, to the stages or paragraphs of the text, to individual sentences and clauses as well as individual words. A starting point for such an analysis is disciplinary genres, descriptions of the types of texts students must compose to achieve the social purposes of each discipline, including the texts students have to write for assessment. These genres have been described for a range of subject areas (Christie & Derewianka, 2008; J. R. Martin & Rose, 2008). Furthermore, the preoccupations of the discipline can be conceptualised linguistically in terms of what is happening, or the field, as ‘a set of activity sequences oriented to some global institutional purpose (including the taxonomies of participants involved in those activities)’ (J. R. Martin, 2011, p. 40). A systemic functional analysis of information flow and cohesion can also reveal how disciplinary knowledge is constructed and unfolds in successful texts (J. R. Martin, 1992; J. R. Martin & Rose, 2007). Moreover, a systemic functional multimodal analysis also reveals the disciplinary interplay of language and other modalities such as image and musical sound (Kress & van Leeuwen, 2006; O’Halloran, 2011; Unsworth, 2001; van Leeuwen, 1999). Together these features combine to form a ‘syndrome of features that reflect differences in the ways in which writers in different disciplines engage with knowers and knowledge’ (Hood, 2011, p.

127). It is in deploying these syndromes of semiotic features consciously and strategically that verticality can be built.

By exposing the exact knowledge and semiotic requirements for success in the HSC examinations in Business Studies and Music, it is possible to create a model of disciplinary knowledge that is ‘more theoretically robust and more transparent for students ... internally coherent, based on well theorised organising principles and articulated in a (meta) language that allows for progression up the years of schooling’ (Christie & Macken-Horarik, 2007, p. 157). The syllabus dot points do not currently represent this model of cumulative knowledge. Beyond the dot points lies disciplinarity, in the form of a systematic account of specialised knowledge and the literacy practices that construe this knowledge in the HSC examination. These disciplinary literacies, however, not only require students to demonstrate a command of language. Music students must also master an array of musical images. The deployment of musical images in successful Music answers raises the issue of multimodal literacies.

2.3.1 Multimodal literacies

The rise of technology and the increasingly prominent role of images in text books and teaching resources have become distinctive features of education in the twenty first century, leading to the emergence of concepts of multimodal literacies, digital literacies and multiliteracies (Cazden et al., 1996; Cope & Kalantzis, 2000; Unsworth, 2001). Instead of dealing mainly with reading and writing in schools, students and teachers are now exposed to resources that include visual images including pictures, photographs, graphics, diagrams and music notation, as well as sound (music, sound and spoken language) and even spatial and tactile semiotic resources (Kalantzis & Cope, 2012). The Australian curriculum incorporates these developments in its definition of literacy by referring to ‘oral, print, visual and digital texts’ (Australian Curriculum Assessment and

Reporting Authority [ACARA], 2013c, p. 9) and emphasises the importance of ‘visual literacy’ across the curriculum (Australian Curriculum Assessment and Reporting Authority [ACARA], 2013c, p. 12).

Multimodal literacy has been defined as ‘meaning making that occurs through the reading, viewing, understanding, responding to and producing and interacting with multimedia and digital texts’ (Walsh, 2006, p. 213). The new digital and visual landscape for education concerns new ways of reading, viewing and creating texts. In fact, some argue that the ‘dominance of the image’, in combination with the computer screen, have resulted in a ‘revolution in the uses and effects of literacy’ (Kress, 2003, p. 1). To engage with this revolution, the New London Group (2000) have argued for the development of a metalanguage to support a sophisticated analysis of semiotic systems including language and image that could be used by teachers and students in a range of contexts. They also proposed the idea of ‘new literacies’ and the notion of text composition as ‘design’ (Cope & Kalantzis, 2000; Kress & van Leeuwen, 2006; New London Group, 2000; Sharples, 1999). Visual literacies are an important part of the discussion in relation to two sources of data: Music examination answers and syllabus documents.

Examination answers by successful Music students are multimodal texts that contain written language as well as various ‘images’, including graphic notation, traditional music notation, diagrams, graphs and tables. As Chapter 5 will show, students who use particular types of notation and images in their answers tend to be awarded high marks yet neither the syllabus nor the comments of markers provide information for students about how to use notation or diagrams in their answers. Furthermore, there is little research into the use of graphic notation as an interpretive resource for students sitting

an aural Music examination. Instead, a more detailed literature review at the start of Chapter 6 will show that most research has focused on how notation transmits meaning from the composer to a performer (Bamberger, 2005) and how musical drawings demonstrate the cognitive development of young children (Bamberger, 1995; Barrett, 2005; Gromko, 1994). Consequently, there is a need to examine in detail the interpretive use of notations and diagrams, including how they contribute to the disciplinary literacies of Music in general, and how they contribute to the successful writing of answers in the HSC examination in particular.

Dot points in themselves are also a visual form of representation of meaning. Dot points, sometimes called bullet points, are a commonly used feature of computer software such as Word and PowerPoint, and they represent the influence of ‘new writing’ (van Leeuwen, 2008) or ‘writing in the age of screen’ (Kress, 2003). In these new ways of making meaning, written language and image are integrated and the grammar that organises these texts is expressed visually, ‘through diagrammatic structures and visual composition, and through cohesive uses of colour, typography and other stylistic elements’ (van Leeuwen, 2008, p. 132). Dot points usually ‘present an unordered series in which each item is emphasised by a graphic symbol, all are at the same or similar level of abstraction, and aligned with and visually similar to each other’ (Djonov & van Leeuwen, 2014, p. 235). Using dot points to itemise curriculum knowledge will be shown to be problematic due to the condensation of complex information and the obscuring of logical relations between points (Djonov & van Leeuwen, 2014). The implications of organising curriculum knowledge into dot points, and the challenges this poses for teachers and students, will be explored in Chapter 4.

In order to evaluate the semiotic potential of images and written language, the theoretical framework of Multimodal Discourse Analysis (MDA) will be used. MDA is a growing area in social semiotics (van Leeuwen, 2005), and has given rise to a particular form of analysis where systemic functional principles, originally devised in relation to language, are applied to other semiotic resources. Systemic Functional Multimodal Discourse Analysis (SF-MDA) enables an exploration of the semiotic potential of image (Kress & van Leeuwen, 2006; O'Toole, 1994) and also music and sound (Noad & Unsworth, 2007; van Leeuwen, 1999), as well as movement (Martinec, 2000), three dimensional space (Stenglin, 2008) and film (Bateman, 2009). Kress and van Leeuwen's (2006) grammar of visual design, *Reading Images*, will be used in this thesis to describe the visual resources of Music examination answers. Another significant analytic resource used in this thesis is the account of the semiotic potential of sound and music developed by van Leeuwen (1999). The system networks developed by van Leeuwen to interpret meanings made through speech, music and sound are the inspiration for the system networks developed in this research to represent the concepts of music, as will be explained in Chapter 4.

SF-MDA research has also engaged with disciplinary literacies in education. Focus areas for analysis have included secondary school Science (Chan, 2011; Chan & Unsworth, 2009; Doran, 2013; Lemke, 1998, 2001, 2004; Unsworth, 2001; Unsworth & Cléirigh, 2009), Mathematics classroom discourse (Doran, 2012; O'Halloran, 2000), Mathematics and Science text books (Bezemer & Kress, 2008), and History text books (Derewianka & Coffin, 2008; Fox & Exley, 2009). Secondary school Business Studies and Music, however, have received little attention.

One recent SFL influenced study has explored how Jazz music is described in essays written by undergraduate students. In this study, J.L. Martin (2012, forthcoming) analysed the multisemiotic representation of Jazz through various forms of music notation in combination with language, distinguishing the semantic work of notation and of language in the essays. There are several differences between Martin's study and the current research. While both explore intersemiosis and different forms of musical notation, Jazz students tend to use variants of traditional music notation, whereas secondary Music students will be shown to use a more diverse range of graphic notation and even tables and graphs. Also, the context for the creation of the texts and the authors are different: university students are specialists in Jazz, as opposed to secondary school students who may have little background in music theory or instrumental tuition. Also, the syllabus specifies that secondary school students must create answers about concepts of music, thus restricting the possible meaning potential of their answers. The particular context of the HSC examination and the range of music notations used by secondary students are not addressed in Martin's study and, therefore, warrant separate research attention as a component of the disciplinary literacies of secondary school Music.

Another relevant area in the field of multimodality concerns 'intersemiosis', or ways in which images and language function both independently and together to construct meaning. The New London Group (2000, p. 24) call for ways of describing 'the multimodal relations between different meaning making processes', so that the semantic contribution of various semiotic resources can be evaluated, but a means for doing this has not been entirely settled. Some SFL influenced research has provided ways of describing intermodal relations (Kress, 1997, 2003; Lemke, 1998; Martinec & Salway, 2005; O'Halloran, 2005, 2008; Royce, 1998). In Chapter 5, an SFL based framework

applied to the meaning potential of images in children's picture books (Painter et al., 2013) will be used to analyse the intersemiosis of written language and images in Music examination answers.

While the multimodal focus is on the syllabus documents and on HSC Music answers, it should be noted that some HSC answers in Business Studies use visuals as semiotic resources in addition to written language. In Business Studies reports, graphic displays of business data, such as pie charts for market share or line graphs to represent sales are common. The corpus of Business Studies data chosen for this research, the extended response answers, did not contain any data displays. Therefore, in order to maintain a manageable project scope, this research chooses to focus on dot points and language resources only in Business Studies and to explore language and images in Music answers.

The following section will explore the contributions by Systemic Functional (SF) linguists to the understanding of 'disciplinary ways of making meaning' (Fang, 2012b, p. 20). Of direct relevance to this study are several major research projects that will be briefly explored.

2.3.2 Systemic Functional approaches to disciplinary literacies

SFL has built up a body of research that has described the disciplinary literacies of subject areas in primary and secondary schooling. One of the first research initiatives was the *Write it Right* project funded by the Department of Education in New South Wales in the 1980s and early 1990s, described in detail in Rose and Martin (2012). Subsequent research has built on *Write it Right* to map the genres, and the language patterns within the genres, of a range of subjects including Science (Halliday & Martin, 1993; Lemke, 1998, 2004; J. R. Martin, 2013; Veel, 1993), History (Coffin, 1996, 2006;

J. R. Martin et al., 2010; Schleppegrell, 2004), Geography (Cope, Kalantzis & Wignell, 1993; Wignell, 2007; Wignell, Martin & Eggins, 1993), subject English (Christie & Macken-Horarik, 2007; Macken-Horarik, Love & Unsworth, 2011) and Mathematics (O'Halloran, 1996, 2000; Veel, 1999). Some secondary subject areas, however, escaped scrutiny. These include Business Studies and Music.

At the time of writing, several research projects are underway in which SF linguists are working with teachers to explore aspects of disciplinary literacies in different ways.

While there are many projects involving primary schooling, the projects most relevant to the current research involve secondary school subject areas. Four studies in particular will be outlined, followed by an overview of international research:

- *Disciplinary, Knowledge and Schooling* (DISKS I and II);
- *Embedding Literacies in KLAS* (ELK);
- *Secondary Literacy Improvement Project* (SLIP);
- *Good Enough Grammaticals*; and
- International projects in the United Kingdom and United States.

Disciplinary, Knowledge and Schooling (DISKS I and II)

The first project is *Disciplinary, Knowledge and Schooling* (DISKS), based at the University of Sydney. This project is a collaboration between SFL, ethnomethodology and social realist sociology to address the importance of cumulative knowledge building in education (Freebody et al., 2008). Although the project initially covered several secondary subject areas including Music, the bulk of the project concerned Biology and Ancient History. The importance of classroom talk is a major theme in the DISKS project, which has found that most teachers 'talk' how to write, with limited or no opportunity for students to practise before a written assessment task (J. R. Martin,

2013). In discussion of DISKS research findings, literacy has been framed as a process for transforming classroom talk into writing (Freebody, 2013). These findings have also been established in prior research (e.g. Cumming & Wyatt-Smith, 2001) and are also confirmed in the current research where five Business Studies and Music teachers talk about writing, but do not give students many opportunities to write in class.

Other findings from the DISKS project suggest that for cumulative learning to occur, students must be able to move ‘up and down’ the ‘semantic wave’, which refers to movement between concrete and abstract meanings, and simple and condensed explanations of concepts (J. R. Martin, 2013; Maton, 2014, p. 129). Research into cumulative learning in secondary schools is continuing with follow up research (DISKS II) into concepts of ‘power pedagogy’ and ‘semantic waves’, concepts that attempt to more closely ‘calibrate’ linguistic and sociological accountings of knowledge (T. Gill et al., 2013). While the current project does not concern semantic waves, it is worth noting the complementary analytical perspectives provided by linguistics and sociology which also are used in the current research.

Embedding literacies in KLAs (ELK)

The *Embedding Literacies in Key Learning Areas* project, based at the Australian Catholic University (Strathfield NSW), involves ways of explicitly teaching literacy across the curriculum (Humphrey & Robinson, 2012; Humphrey & Sharpe, 2013).

Professional development and support is provided for teachers across the curriculum in four secondary schools and two primary schools in Sydney, with a particular focus on English and Science in the Middle Years (Years 7-9). Music has been involved in this project but no specific results have been published about this subject.

The dominant concern of the ELK project is how to build linguistic knowledge with teachers in a way that is approachable yet also maintains the richness of SFL theory. To address this issue, the ELK project has developed a rubric or template for all assessment tasks known as a '4x4 toolkit'. The foundation of this idea is the '3x3 toolkit' used in a previous academic literacy project in universities (Mahboob, Dreyfus, Humphrey & Martin, 2010). The 3x3 represents the three register variables of SFL, field, tenor and mode, as well as three strata or levels of language: whole text, phase/paragraph and lexico-grammar (Humphrey, Martin, Dreyfus & Mahboob, 2010). The 3x3 has been expanded to a 4x4 framework in the ELK project by adding logico-semantic meaning to the existing register variables, along with an extra level of 'word and expression' to describe meaning below the clause (Humphrey & Robinson, 2012). The ELK project has influenced some aspects of the literacy intervention in the current research. My involvement with the university project that developed the 3x3 toolkit gave me a positive experience in using a linguistically informed rubric to evaluate student work. This experience inspired the development of a rubric that synthesises the features of successful answers in Business Studies and Music, as will be explained in Chapter 6.

Secondary Literacy Improvement Project (SLIP)

A Victoria based project called the *Secondary Literacy Improvement Project* (SLIP) has been operating since 2009 to try to build knowledge about language in secondary school subject areas in Years 7-10 (Cann, Inglis, Dalman & Gregory, 2013). SF linguists have been supporting the Catholic Education Office (Melbourne) to provide professional development for teachers in improving literacy achievement in discipline areas. The focus of this project is the idea of 'distributed leadership' (Dinham, Aubusson & Brady, 2006). This approach aims to encourage, support and empower teachers at the local level, that is, within schools, to drive whole school literacy initiatives. Publications of

research findings related to the SLIP project findings are limited at this point but research is ongoing. The SLIP project is an example of a whole school discipline specific professional development project. In contrast, the intervention in the current research involves case studies with five teachers rather than at a whole school level. The advantage of case studies is that individual cases can be analysed in more detail and depth, providing insights into professional development that could be applied in whole school projects in the future.

Good Enough Grammaticals

The *Good Enough Grammaticals* project is a collaboration between the University of New England, Australian Catholic University (Melbourne) and Griffith University (Brisbane) that aims to build knowledge about language for teachers of subject English. Over the three year project, English teachers in Years 4, 6, 8 and 10 have participated in professional development related to the genres of narrative, persuasion and text response, as well as learning about visual texts (Love & Sandiford, 2013; Macken-Horarik, 2013; Macken-Horarik et al., 2011; Newbigin et al., 2013). Research participants in this project are teachers of subject English which is not directly relevant to my research into Business Studies and Music. However, concepts behind *Good Enough Grammaticals* have informed the thinking behind the current research.

A ‘good enough grammatics’ refers to the essential knowledge about language that teachers need to help their students navigate the demands of secondary school English. Four challenges motivate the *Good Enough Grammaticals* project (Macken-Horarik et al., 2011) and these are highly relevant to the disciplines of Business Studies and Music too. The first challenge involves ‘generating a coherent account of knowledge about language for contemporary English’. This challenge also applies to secondary school

subjects and it raises the question: what is the most essential and important knowledge about language that teachers need in order to help their students achieve success? Answering this question motivates this investigation of Business Studies and Music. The second *Good Enough Grammaticals* challenge involves the ‘contribution of a rhetorical grammatics to improved compositions’. This raises the issue of interpretive range and rhetorical devices deployed by writers in Business Studies and Music. My research focuses on how writers in these subjects can interpret the knowledge of the subject in ways that are valued by HSC markers. The results of this analysis illuminate the ‘hidden curriculum’ of these subjects, as the syllabus does not explain how to appropriately evaluate business activities or how to interpret music. The third challenge involves cumulative learning about language, already positioned as a central concern of this thesis. Finally, the *Good Enough Grammaticals* project addresses ‘multimodal communication’. Multimodality is significant in the study of HSC Music because successful student answers respond to musical sound by incorporating a variety of graphic notation, diagrams and graphs, in addition to language. While my research is more modest in scale and scope than *Good Enough Grammaticals*, it covers some of the same conceptual ground.

The *Good Enough Grammaticals* project also addresses the challenges of sharing knowledge about language with teachers. Early reports describe some of the challenges for researchers in maintaining continuity with teachers and students in a longitudinal project like *Good Enough Grammaticals*. Some teachers left the school, some changed classes or teaching responsibilities, and in one case, the staff room burnt down so the teachers did not continue (Macken-Horarik, 2013). Like the *Good Enough Grammaticals* project, the current research also directly engages with the challenges of disengagement and drop out among research participants, by providing a principled explanation of why

it can be so difficult to effect change in the area of literacy and suggesting possible ways forward when challenges arise.

International research

A recent major study in the United States used SFL metalanguage to build understanding of the disciplinary literacies of History. The University of California - Davis *History Project* (Achugar & Schleppegrell, 2005; Achugar et al., 2007; Schleppegrell & de Oliveira, 2006; Schleppegrell, Greer & Taylor, 2008) delivered professional development for 268 teachers. Students whose teachers participated in this program performed better than students who were not supported (Achugar et al., 2007; Schleppegrell & de Oliveira, 2006; Schleppegrell et al., 2008). As part of this project, Fang and Schleppegrell (2010, p. 539) identified three overall guiding questions for text analysis, one for each of the metafunctions. These questions have been helpful in the current research by providing a heuristic structure for discourse analysis, as presented in Chapter 4.

A three year project based at the University of Michigan aims to support the English language learning of students in six primary schools in Michigan (students in Years 2-5) (Schleppegrell, 2013). This project, called *The iterative development of modules to support teachers' engagement in exploring language and meaning in text with English language learners*, has introduced SFL concepts to nineteen teachers, focusing on the use of metalanguage to support curriculum goals. Early findings have shown that SFL metalanguage has enabled even young students to 'begin to see the larger systems in the language and options they have for making choices from those systems in different contexts' (Schleppegrell, 2013, p. 165). This kind of learning is assisting students to recognise variations in register in different disciplinary contexts. This is an example of

‘(e)mbedding the metalanguage in authentic disciplinary work’ (Schleppegrell, 2013, p. 165) which the current research also aims to do.

Although not an SFL project, another large scale research project in grammar teaching is also relevant to my research. The study has identified the effect of embedded teaching of grammatical knowledge on student writing in composition tasks related to story genres, a written speech and poetry (Myhill et al., 2012; Myhill et al., 2013). Based on a randomised control trial with 744 students and their subject English teachers in 31 comprehensive high schools in the UK, findings from the project include a ‘highly significant ($p < 0.001$) positive difference of 5.11% marks for the intervention in terms of improvement in writing attainment’ (Myhill et al., 2012, p. 151). This empirical evidence supports the value of explicit teaching of grammar in improving student writing outcomes. Another finding of this research is that teachers’ linguistic subject knowledge (LSK) and confidence in teaching grammar also contribute to student improvement. By drawing attention to the importance of teacher knowledge and teacher attitudes to the teaching of grammar, this study ‘emphasises the complex inter-relatedness of many factors in the realisation of educational benefit; particularly in terms of learners’ needs, teachers’ attitudes and experience and teachers’ subject knowledge’ (Myhill et al., 2012, p. 162). My research also recognises that linguistic research needs to account for teacher attitudes and knowledge in a theoretically principled way.

Many of the SFL projects reviewed above draw on a pedagogical framework known as Sydney School genre pedagogy. This framework will be explored next.

2.3.3 Pedagogy for disciplinary literacies: Sydney School genre pedagogy

In an effort to formalise the characteristics of effective pedagogy for literacy, Sydney School researchers developed a curriculum cycle. The teaching and learning cycle, also known in other forms including the genre pedagogy cycle and literacy development cycle, was based on research in language development in young children. The role of the parent in explicitly teaching the child how to ‘mean’, as the child develops control over language has been demonstrated by Halliday (1975) and Painter (1991). The parent does not stand by passively while the child learns language on his or her own. Instead, in the shared contexts of everyday life, including during shared reading, the parent guides and helps the child in an encouraging way. In this sense, the parent is like a teacher who offers guidance through interaction in the context of shared experience (J. R. Martin, 1999; Painter, 1991). This research has led to an approach where teaching ‘means preparing learners for each learning task and then handing control to learners to do the task themselves’ (Rose & Martin, 2012, p. 10). While there have been several developments of this cycle, the version used in the current research is the one developed in the *Write it Right* project (Rothery, 1994), shown in Figure 2.1.

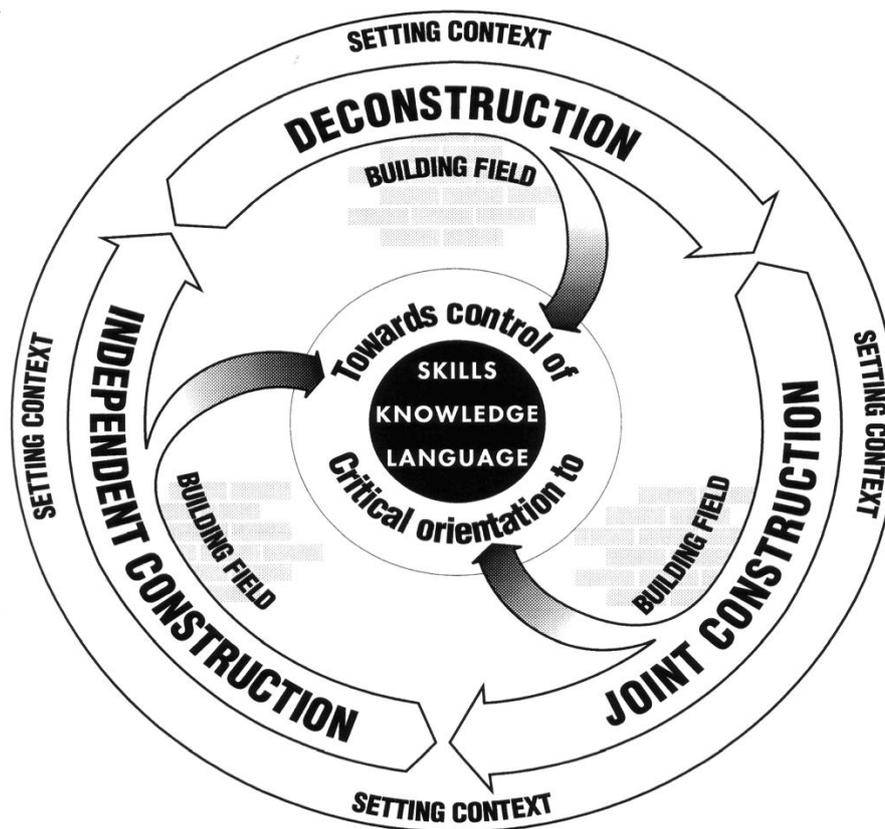


Figure 2.1: Write it Right teaching and learning cycle

(Rothery, 1994)

Around the perimeter of the model is ‘setting context’, which foregrounds the importance of relating every activity to the overall purpose and context at all stages of the cycle. Each stage of the cycle also involves ‘building field’ which means that the teachers and students ‘share experience of the subject matter’ (Rose & Martin, 2012, p. 65). As explained in Rose and Martin (2012), the three main stages of the cycle are deconstruction, joint construction and independent construction. The deconstruction stage comprises close analysis of a model text representative of the genre to be taught. The next stage is joint construction, when the teacher leads the students in the collaborative writing of a class text. The third stage is independent construction, during which students apply what they have learnt to a new text they write themselves. This

stage involves sub stages of a new context, building up another field, planning, writing and gaining feedback from the teacher, editing and publishing. At the centre of the model, the goal of pedagogy has been defined as ‘towards control of’ and ‘critical orientation to’ the skills, knowledge and language involved in the lesson. This perspective on critical literacy incorporates two aspects: both ‘mastery of the genres being critiqued and mastery of the genres being used to critique’ (Rose & Martin, 2012, p. 67). The model is a cycle because the pedagogy is iterative with many points of entry and exit, depending on the needs of teachers and students.

One adaptation of this pedagogy is called *Reading to Learn* (R2L) (Rose & Martin, 2012). In R2L pedagogy, teachers lead students in detailed reading, followed by joint re writing and then independent writing. At all stages of the cycle, teachers scaffold activities carefully so that all students know the answers to questions posed by the teacher and all students are affirmed. R2L pedagogy has been implemented successfully in many primary and secondary schools in Australia as well as overseas, for example in South Africa and northern Europe, with promising results (Rose & Martin, 2012, p. 15). Currently, the Catholic Education Office (Melbourne) has also achieved strong results with implementing *Reading to Learn* in Years 5-8 in 8 secondary schools as well as a number of primary schools (Culican, Faiola, Pilson, Nicholls & Moloney, 2013).

Another variation of scaffolded pedagogy, *Accelerated Literacy* (AL), developed by Brian Gray and Wendy Cowey, leads students through an intensive analysis of discipline specific texts using a systematic sequence of teaching strategies broadly based on the teaching and learning cycle. The results from around 60 schools in the Northern Territory are promising (Cowey, 2008). Similarly, a recent review of the application of AL in 28 primary schools in New South Wales found that ‘student

learning outcomes have been observed to improve for all or most students', with particularly significant gains for indigenous students (NSW Department of Education and Communities, 2012, p. 2).

Despite the substantial body of research into disciplinary literacies and literacy pedagogy, thorough understanding of effective literacy teaching is by no means commonplace. There is still a gap between research and practice. The review will now turn to teachers and how to conceptualise what teachers know about their discipline and its literacy practices.

2.4 Teacher knowledge, attitudes and beliefs

Rather than attending to student learning only, educational research has also focused on teachers' knowledge, capacities, attitudes and beliefs. This section of the review presents a summary of research into teacher knowledge, identities, beliefs and attitudes, with a focus on secondary school teachers and literacy.

2.4.1 Identities of secondary school teachers

Secondary school teachers show strong allegiance to their disciplines, a long established feature of research in secondary schools (Grossman & Stodolsky, 1994; McLaughlin & Talbert, 2001; Siskin, 1994). While primary school teachers may see themselves as generalists (Spillane, 2005), secondary school teachers tend to build their professional identity around their subject. For instance, Music teachers tend to see themselves as musicians first and teachers second (Pascoe, 2005; Welch, Purves, Hargreaves & Marshall, 2010). Similarly, Social Science teachers in general have also been shown to identify with their discipline (Siskin, 1994) although this research has not been carried out specifically with Business Studies teachers.

The training of secondary school teachers, and the structuring of schools by subject faculties, contribute to the development of specialised identities. In contrast with primary school teachers, secondary school teachers often pursue undergraduate studies in their field of expertise, such as Music, and then add on postgraduate teacher qualifications (Ramsay, 2000). Alternatively, many undergraduate university preservice teaching courses for secondary school teachers require specialisation in one or two teaching areas. To add to this sense of specialisation, most secondary schools have subject area staffrooms so teachers in one faculty rarely come in contact with other members of staff. This geographic separation, a phenomenon known as ‘balkanisation’ (Hargreaves, 1994), can reinforce subject boundaries. Of the five teachers involved in the current research, four sat in faculty staff rooms, away from teachers of other subjects. The Music teachers in particular had desks near their music rooms, located at a geographical distance from main buildings to minimise the noise impact from music making. In this way, faculties form individual ‘nation states’ within the school culture and teachers from different departments can ‘inhabit quite different worlds’ (Siskin, 1994, p. 180).

Identification with the discipline has implications for the teaching of literacy in secondary schools. By identifying with their discipline, secondary teachers tend to believe that subject area teachers cannot or should not teach literacy (O'Brien & Stewart, 1990; O'Brien, Stewart & Moje, 1995). Contributing to this belief is the view that literacy is the responsibility of others, usually primary school teachers or the English teacher (Bintz, 1997; Readance, Bean & Baldwin, 1989). Secondary school teachers tend to ‘assume specific curriculum literacy capabilities among the learners, and thus often focus on content’ (Freebody, 2007, p. 23). This focus on content can be seen in a recent review of Music teacher preparation, which did not refer to literacy or

language in any way (Welch et al., 2010, p. 25). Even if teachers think that literacy is important, they may not have time to teach literacy in a crowded curriculum (Barry, 2002; Draper, 2008; Wright, 2007). This body of research represents a direct challenge to government policies and teaching standards which state that literacy is now the responsibility of all teachers across the curriculum.

The dual problems of disinterest in literacy and lack of time are major challenges that also emerged during the intervention stage of this research. They are closely linked to the next issue to be addressed: lack of knowledge about language.

2.4.2 Teacher knowledge about language, self efficacy and attitudes

Research into teacher knowledge about language rarely targets secondary teachers of Business Studies and Music. However, a body of research that includes these subject specialists in larger cohorts of participants shows that most teachers have limited knowledge of language and low confidence in teaching literacy and grammar. In Australia, a government commissioned project exploring the literacy demands of the ‘middle years’ found that ‘subject teachers have insufficient knowledge of the language and literacy demands of their discipline’ (Luke et al., 2003, p. 118). Another study of first year pre service teachers found that ‘the majority of participants appeared to have poor understandings of basic linguistic concepts at all levels’ (Harper & Rennie, 2009, p. 27), from identifying sounds to naming word classes and discussing language variation in use. Importantly, this lack of a metalanguage prevented teachers from being able to ‘discuss grammatical relationships or the relationship between form and meaning’ (Harper & Rennie, 2009, p. 31). In subject English, Christie and Macken-Horarik (2007, p. 179) noted that teachers work with ‘intuitions about language’ that are ‘frequently idiosyncratic, and in any case not based on a sufficiently principled

understanding of the language'. Similarly, a survey of 340 Queensland teachers found that even if teachers recognised the importance of explicit teaching of language and literacy, they do not necessarily possess enough knowledge to do so (Fielding-Barnsley & Purdie, 2005).

In terms of secondary schooling in particular, a survey of 303 Australian subject specialists in their first two years of teaching found that 62% considered themselves to be prepared to teach literacy in their subject area. When questioned in more detail about specific aspects of literacy, however, it was apparent that less than half of those surveyed felt prepared to teach specific reading and writing skills in their subject area and only a third felt confident to teach grammar (Milton, Rohl & House, 2007, p. 7).

This lack of knowledge means that it will be challenging for subject teachers to meet the requirements of the new Australian curriculum and to teach literacy in their subject area. Most detail and support for teaching language and literacy in the Australian curriculum, as Hammond (2012) has noted, is provided in the area of subject English. In contrast, language and literacy requirements in other subject areas such as Science, expressed in the General Capabilities documents, are only described in general terms. Hammond (2012, p. 234) found that 'there is little support for integrating language and literacy with teaching of key concepts in disciplines other than English'. This is why it is important to situate literacy research in the disciplines so that it will be possible to provide more targeted support for teachers and students.

To date, explicit and targeted support for teachers in learning about language and literacy has been found to be lacking. A national review of teaching of literacy found that teacher pre service preparation to teach literacy was 'uneven across universities' and that 'systematic support for classroom teachers to build the appropriate skills to

teach reading effectively, is clearly inadequate' (Rowe, 2005, p. 12). This view has also been supported by recent research that found that there are 'ineffective and scattered professional learning opportunities' for inservice teachers in building their knowledge about language (Jones & Chen, 2012, p. 156).

The issues reviewed above are not confined to Australia. A recent survey in the USA found that pre service teacher education 'gives insufficient attention to the role literacy plays within a content area' and that 'teachers in the secondary grades are often ill prepared to recognize and address the specific reading and writing interests, needs, and challenges of their students (Council of Advancing Adolescent Literacy (CAAL), 2010, p. 14). Similar inadequacies in teacher knowledge about language have been found in the UK (Hudson & Walmsley, 2005), Canada (Williams, 2009) and New Zealand (Gordon, 2005; Jeurrisen, 2012; Timperley et al., 2007).

Some scholars have critiqued this body of research as a 'discourse of deficit' and overly emphasising teacher inadequacies rather than strengths (Honan, Exley, Kervin, Simpson & Wells, 2013). Another critique is that relatively few of these studies include analysis of classroom practice rather than grammar tests or self reported surveys (Myhill et al., 2013). In fact, several research initiatives have shown promising success in building the linguistic knowledge of preservice teachers (Honan et al., 2013; Love, 2009; Love, Baker & Quinn, 2008). Also, the research initiatives with inservice teachers described in Section 2.3.2 are also positive. However, there is no doubt that challenges still remain, particularly in secondary schooling.

In order for teachers to teach literacy skills to their students, they need to have high expectations of student achievement and believe that it is possible for their students to

learn and improve. As research in the next section will show, teacher expectations provide yet another challenge to effective teaching of disciplinary literacies.

2.4.3 High expectations vs negative views of students

Research around the importance of intellectual challenge has shown that higher educational outcomes can be linked to the teachers' high expectations of their students (Carrasquillo & London, 1993; Darling-Hammond & Schon, 1996; P. W. Hill & Crevola, 1998). This is a significant issue to consider, especially since there is extensive literature to show that teachers do express negative views of their students, particularly in relation to literacy capacity. According to Freebody (2009), teachers tend to mistakenly perceive their students' literacy difficulties as 'a lack of academic or conceptual aptitude or a lack of requisite knowledge or effort'. There is also a widespread but contradictory belief that students are too far behind to be helped or they are not 'ready to learn' (Rainey & Moje, 2012, p. 76). Teachers also tend to blame others for their students' lack of literacy skills, such as previous teachers or even the students themselves (Bintz, 1997). Teachers in the current study will be shown to express a range of similarly negative attitudes about their students, for example, that their students lack intellectual capacity, are too noisy or are afraid of writing.

Negative beliefs about student capacity appear to be widespread among teachers, and these beliefs have serious implications. A meta synthesis of 97 studies related to substantive improvements in student learning outcomes (Timperley et al., 2007) found a direct connection between student achievement and teacher knowledge and beliefs.

Assumptions that 'some groups of students could not or would not learn as well as others' (Timperley et al., 2007, p. xxx) were associated with low student achievement.

More successful outcomes were associated with teachers who took 'greater responsibility for promoting the learning of all students rather than dismissing their

learning problems as an inevitable reflection of their home or community situation’ (Timperley et al., 2007, p. xxxii).

Considering students in such a negative way has been linked to limited student achievement in a three year research project in Australia. In this study, primary school teachers engaged in professional discussions with academics that questioned ‘(h)abitual, deficit ways of speaking about culturally diverse, poor, working-class families’ (Comber & Kamler, 2004, p. 296). This study found that ‘teachers needed to move outside of deficit discourses to move ahead’ (Comber & Kamler, 2004, p. 307) and that improvements in literacy could only be achieved if teachers were able to break through their negative attitudes to students. In another study that aims to improve the academic and social outcomes of indigenous students in a network of schools in Queensland (Queensland University of Technology, 2013), one of the critical success factors has been found to be ‘the gradual elimination of deficit talk in staffroom culture’ (Luke, 2012, p. 11) and the raising of teacher expectations of students. Combined with a lack of knowledge about language, low teacher expectations of students must represent a significant impediment to teacher professionalism and quality teaching.

2.4.4 Developing quality standards for professional teaching

Recent government initiatives have attempted to standardise what is understood as teacher quality. A national accreditation authority for teachers in Australia has recently been established to provide standards for preservice teaching courses, certification of new teachers and criteria for promotion of experienced teachers to management and leadership positions (Australian Institute for Teaching and School Leadership [AITSL], 2013). These standards include requirements for all secondary school teachers to learn about language and literacy in their subject area. Variants of each standard are attached to each domain representing different stages in a teacher’s career, ranging from

‘graduate’, ‘proficient’, ‘highly proficient’ to ‘lead’ standards. Standards are arranged in three domains: professional knowledge, professional practice and professional engagement. In the first standard, teachers are expected to ‘demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area’ (Graduate Standard 2.1). One of the five focus areas in content knowledge concerns literacy, as graduate teachers are expected to ‘know and understand literacy and numeracy teaching strategies and their application in teaching areas’ (Graduate Standard 2.5) although what these literacy strategies might be is not specified.

To meet AITSL standards, university education of preservice teachers in Australia now incorporates courses in disciplinary literacy. The manner in which these courses are delivered varies greatly between institutions, but the new courses have highlighted the importance of language teaching in all subject areas, not just English. In addition, language based resources to support teacher training in subject areas are becoming more available (e.g. Love et al., 2008). A recent analysis of teaching training in a Queensland university (Honan et al., 2013) found that preservice primary teachers were being successfully taught to address digital, visual and language based literacies in their training. These promising developments are slowly building the teacher knowledge base about language in subject areas but, so far, only a relatively small number of subject area teachers have participated in literacy courses and the impact of the new courses is yet to be evaluated.

There still appears to be a gap between the AITSL standards and knowledge about language and literacy among most practising teachers. The general conundrum is that subject specialists do not know much about language and literacy and they ‘don’t want

to know', for reasons outlined above. Nevertheless, the literacy education literature reviewed above shows how critically important literacy is for disciplinary understanding, as well as for achievement in high stakes testing. This is because being 'literate in a discipline means both deep knowledge of disciplinary content and keen understanding of disciplinary ways of making meaning' (Fang, 2012b, p. 20). Without these understandings, students are unlikely to achieve success in the HSC examination.

Even though some professional development is occurring to address AITSL standards, and the requirements of the new Australian curriculum, there is little or no focus on disciplinary literacy. At a recent national Music teachers' conference in Canberra (Australian Society of Music Education, 2013), issues of language, literacy or writing for assessment purposes were not mentioned at all. Similarly, the program for the upcoming national conference for teachers of Business (Victorian Commercial Teachers Association, 2013) has several sessions related to 'financial literacy' for accounting purposes but no mention of writing, language or literacy despite the fact that education authorities in every Australian state assess the subject through written examinations. There is, therefore, a need to define the content knowledge of Business Studies and Music taught in secondary schools, and also to incorporate knowledge about the literacy demands of the discipline. This research project will explore some of the opportunities and challenges involved in meeting this need.

In summary, 'we need to take teachers' learning just as seriously as young people's learning' (Ellis & Briggs, 2008, p. 2). For this reason, part of the current research revolves around teacher knowledge, teacher attitudes and dispositions, and the teacher knowledge base. To help conceptualise teacher knowledge and attitudes further, a dominant model used in teacher education, Shulman's Pedagogical Content Knowledge,

will be considered. This model will be explored to show how it relates to disciplinary literacies, and to suggest ways it could be specified, elaborated and developed.

2.4.5 Models of the teacher knowledge base

The most commonly used model to describe teacher knowledge is Shulman's Pedagogical Content Knowledge (PCK), developed in the 1980s but still influential in educational research. A recent review found that PCK has been cited more than 7000 times in reports of educational research since its inception (Hashweh, 2013). PCK was developed by Shulman (1986) to describe the teachers' 'knowledge base', that is, the set of understandings, skills and competencies that teachers should possess and use (Darling-Hammond & Bransford, 2005). PCK is a fusion of Content Knowledge and Pedagogical Knowledge. Content knowledge concerns 'what' is to be taught: the facts, topics, concepts, theories and understandings of a subject area, that is, the 'amount and organisation of knowledge per se in the mind of the teacher' (Shulman, 1986, p. 9), including teacher understanding of how important concepts in a discipline are acquired and organised (Parr et al., 2006). Understanding the organisation of knowledge in a subject is critical so that teachers can 'understand subject matter deeply and flexibly, so that they can help students create useful cognitive maps, relate ideas to one another and address misconceptions' (Darling-Hammond, 1998, p. 7). The second component of PCK is pedagogical knowledge, the 'how' of teaching which includes 'knowledge of generic principles of classroom organisation and management and the like' (Shulman, 1986, p. 14). PCK involves the transformation of content knowledge or subject matter for teaching. According to Shulman (1986, p. 9), PCK 'goes beyond the knowledge of subject matter per se to the dimension of subject matter knowledge for *teaching*. ... the particular form of content knowledge that embodies the aspects of content most germane to its teachability' (original emphasis). If content knowledge and pedagogical

knowledge are represented as two concentric circles, as in Figure 2.2, PCK is the overlapping area in which content and pedagogy are fused.

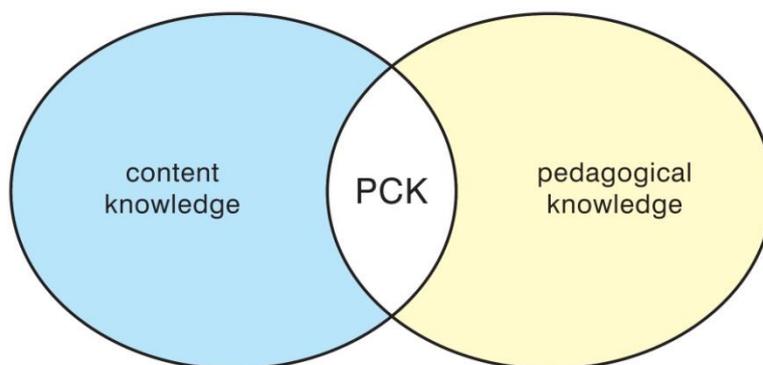


Figure 2.2: Pedagogical Content Knowledge

(based on Shulman, 1986)

PCK includes ‘the most regularly taught topics in one’s subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations and demonstrations – in a word, the ways of representing and formulating the subject that make it comprehensible to others’ (Shulman, 1986, p. 8). In order to teach the content of the subject in the most effective way possible, teachers draw on both theory and practice to create a wide repertoire of teaching and learning ideas, which are an ‘armamentarium of alternative forms of representation’ of content knowledge (Shulman, 1986, p. 9).

Since 1986, the PCK model has been critiqued and modified by educational scholars. Criticisms have been levelled at the PCK model, based on its lack of specificity and insufficient focus on understanding learners. In the PCK model, the intertwined nature of content knowledge and pedagogical knowledge can make it difficult to define or separate them. This has led to a criticism of PCK as a vague and ‘fuzzy’ concept which

needs to be more clearly defined (Gess-Newsome, 1999, p. 63). In educational research, PCK has often been used as a label for ‘a generic all encompassing form of teacher beliefs and knowledge’ resulting in calls for more detailed, topic specific descriptions of PCK in successful use (Hashweh, 2013, p. 119). Due to the generality of the PCK model, some research has shown that teachers tend to focus on the pedagogical knowledge aspect and do not focus on subject content in a specific way (Fives & Buehl, 2008; Hashweh, 2013). Accounting for the exact nature of content knowledge tends to be problematic. This is perhaps due to the fact that PCK does not specify the nature of content knowledge or provide the means for its analysis (Maton, 2014, p. 8). The lack of clarity about content knowledge is demonstrated by literature that calls subject knowledge ‘underconceptualised and understudied’ (H. C. Hill, Ball & Schilling, 2008, p. 395). Consequently, content knowledge can be underplayed, leaving teachers to define content knowledge for themselves.

For successful disciplinary learning, it is important for teacher knowledge to be clearly organised. However, the literature has shown that teachers often display limited mastery of their subject areas, resulting in content knowledge that is ‘fragmented, compartmentalised, and poorly organised, making it difficult to access this knowledge efficiently when teaching’ (Gess-Newsome, 1999, p. 63). ‘[T]eachers must not only be capable of defining for students the accepted truths in a domain’ argues Shulman (1986, p. 9), ‘they must also be able to explain why a particular proposition is deemed warranted, why it is worth knowing, and how it relates to other propositions’. The ‘relatability’ of knowledge to other knowledge is significant for cumulative knowledge building. For example, Schleppegrell (2013, p. 165) found that by teaching students a metalanguage for describing features of writing related to curriculum work, students were able to see the ‘the larger systems in the language and the options they have for

making choices from those systems in different contexts'. This is one of the reasons why SFL, with its fundamental focus on systems of meaning, has the potential to build cumulative knowledge about language. The focus on systems will inform the current research, with systems networks used to represent some aspects of subject knowledge and linguistic features of disciplinary writing in relationship to other knowledge.

A further critique of the PCK model is that it pays insufficient attention to students as learners. While Shulman notes that 'knowledge of learners and their backgrounds' (Shulman, 1986, p. 14) is required for effective teaching, he includes this understanding as part of pedagogical knowledge. In order to acknowledge the importance of understanding learner needs, a third domain of knowledge called 'knowledge of learners and their development in social contexts' was added to PCK (Darling-Hammond, Bransford & LePage, 2005, p. 11). Knowledge of learners requires teachers to 'be able to identify the strengths of different learners while addressing their weaknesses', and even more importantly, to be able to adapt teaching strategies at the point of need in the classroom (Darling-Hammond, 2006). This additional component has been represented as a third circle in Figure 2.3, with Darling-Hammond's and Bransford's wordings for the dimensions of teacher knowledge shown in brackets.

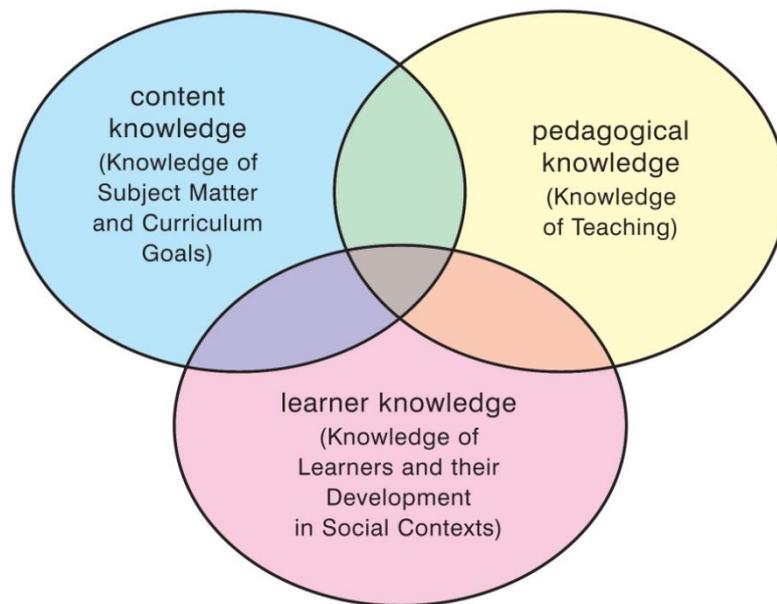


Figure 2.3: Adding learners to Pedagogical Content Knowledge

(based on Darling-Hammond & Bransford, 2005, p. 11)

In this model of PCK, overlapping sections have not been renamed. The central overlapping area is still PCK, a combination of all three areas of knowledge that teachers need in order to teach effectively.

The teacher knowledge base does not, in the form shown in Figure 2.3, incorporate explicit reference to literacy. In Darling-Hammond's model of PCK, language is an element of the learner knowledge, which includes a focus on language development and language variation between cultures. In this sense, Darling-Hammond's sense of 'language' is not the same as the approach taken in disciplinary literacies, where language, as a social semiotic, has a critical role to play in learning the content knowledge of a discipline and realising this knowledge in literacy practices. Literacy knowledge has been identified by Love (2009; 2008) as a fourth domain of the teacher knowledge base, a view shared by Andrews (2007), Biancarosa and Snow (2004) and Myhill et al. (2013), who call for LSK: linguistic subject knowledge. According to

Love, literacy knowledge involves understanding how spoken and written language are structured for the purpose of learning, acknowledging that each subject area has its own ways of using language and its own characteristic literacy practices. Thus, the proposed fourth aspect of the teacher knowledge base incorporates the concept of disciplinary literacies, and recognises the significant research that has been reviewed in this chapter. By linking content knowledge with disciplinary literacy, and with content knowledge and knowledge of learners, the four components of the knowledge base, Literacy Pedagogical Content Knowledge (LPCK), are now represented by four circles in Figure 2.4.

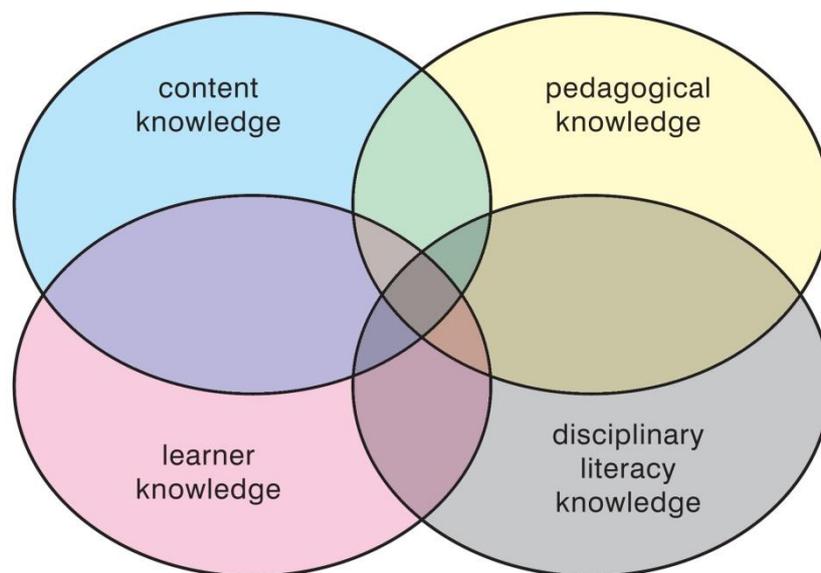


Figure 2.4: Model of Literacy Pedagogical Content Knowledge
(based on Love, 2009)

Overlapping regions in this model show that each domain of teacher knowledge is connected with other domains of knowledge. Content knowledge overlaps with knowledge about language in the concept of disciplinary literacies, as teaching about language is embedded in subject area knowledge. Knowledge of effective pedagogy is connected with knowledge of content, literacy and learners, as teachers need to know

how best to teach the content and literacy practices in ways that meet the needs of all learners. The LPCK model incorporates knowledge about language, literacy practices and literacy pedagogy into the ‘armamentarium’ of effective teachers. However, there is little understanding of how this can be achieved and there is a need for research that builds ‘understanding of the subtle inter relationships between pedagogical content knowledge, classroom practice and student learning about language’ (Myhill et al., 2013, p. 78). This is exactly what the current research is attempting to achieve.

There is still one aspect missing from the LPCK model – teacher beliefs. Personal epistemologies are ‘beliefs’ about ‘how knowledge is generated in a specific disciplinary field or learning context’, beliefs that influence pedagogical practices (Maggioni & Parkinson, 2008, p. 447). Beliefs are important because teacher decision making has been shown to be a ‘reflection of their beliefs and not necessarily governed by pedagogical and subject matter knowledge’ (Hall, 2005, p. 405). Consequently, it is important to address what teachers believe about their subject, their students and about literacy, as well as what they know about it.

After the development of the initial PCK model, Shulman and his colleagues acknowledged the importance of teacher beliefs about the field to be taught, as well as judgements about appropriate instructional activities, goals, forms of evaluation and the nature of student learning (Grossman, Wilson & Shulman, 1989). Shulman recently added a more social and belief oriented region to PCK. Teachers should be ‘Ready (possessing vision), Willing (having motivation), Able (both knowing and being able “to do”), Reflective (learning from experience) and Communal (acting as a member of professional community)’ (Shulman & Shulman, 2004, p. 239). However, these ideas

are not sufficiently explicated (Fives & Buehl, 2008) and it is still unclear how these aspects of belief and attitude interact with teacher knowledge.

Teachers' personal epistemologies are complex and difficult to categorise, and there are inconsistencies between what teachers espouse and what they actually do in their teaching practices (Buehl & Fives, 2009; Fang, 1996; Olafson & Schraw, 2006). Studies identifying teacher beliefs about PCK in specialist subjects have mostly been concerned with Mathematics (Baumert & Kunter, 2013; H. C. Hill et al., 2008; Tsai, 2007) and Science (M. G. Gill, Ashton & Alginosa, 2004; Loughran, Berry & Mulhall, 2006), and none of these studies have addressed literacy knowledge directly. Recently, there has also been a focus on understanding of knowledge about technology in education, a concept known as Technological Pedagogical Content Knowledge (TPCK) (Abell, 2008; Angeli & Valanides, 2013). In general, relatively few studies have directly addressed teacher beliefs about the knowledge needed for effective teaching (Fives & Buehl, 2008; Hashweh, 2013; Maggioni & Parkinson, 2008). There is certainly more to be learnt about knowledge and beliefs in secondary subject areas and particularly in relation to knowledge about language and disciplinary literacy.

Despite the link that has been established between teacher beliefs and pedagogical practices, there has been relatively little research into teacher epistemologies related to language. A synthesis of research by Ellis and Briggs indicated that 'what seems to make a positive difference in teaching and learning are certain stances or dispositions on the part of the teacher' (Ellis & Briggs, 2008, p. 9). Myhill et al. (2012, p. 141) argue that teachers' 'beliefs about the value of grammar, their level of linguistic and pedagogical subject knowledge and teacher effectiveness in the classroom are important variables' which are rarely considered together. A recent study by Wilson and Myhill

(2012) of teaching the linguistic features of poetry, as opposed to literary features (such as rhyme or metre), found that teachers' beliefs generated certain pedagogic decisions. For example, if teachers believed that knowledge about language was not required for learning poetry, they ignored aspects of language and grammar in their lessons. This study 'affirms the significance of considering teachers' personal epistemologies' (Wilson & Myhill, 2012, p. 566).

This review of research into teacher beliefs and attitudes tends to present a 'list of problems' that are hard to solve. We know the kinds of negative attitudes teachers tend to have towards their students and towards literacy, and how subject speciality contributes to these attitudes. In support of these findings, the emergence of teachers' personal epistemologies became a distinctive feature of the intervention stage of the current research. Without prompting, teachers expressed a range of beliefs about subject areas, about themselves as teachers and about their students (mostly negative). In addition, only two of the teachers taught the intervention lesson plans as agreed prior to the lesson, a level of disengagement and resistance that requires adequate explanation and theorisation. These attitudes and behaviours opened up an investigation that extends beyond knowledge and literacy practices.

Given that Shulman's model is the predominant one used to conceptualise teacher knowledge, it seems timely to incorporate teacher attitudes and beliefs into LPCK. The findings in this research will contribute toward one such model in its conclusions. However, in order to address teacher attitudes and beliefs in a principled way, rather than providing another list of problems, explanatory power will be provided by sociology, in particular, from Legitimation Code Theory.

2.4.6 Analysing teacher attitudes and beliefs as well as knowledge

Legitimation Code Theory (LCT), and specifically, the region of that theory called Specialisation, not only maintains a focus on knowledge while investigating subject disciplines, but also adds a further dimension that can be investigated, knowers.

Specialisation presents the simple concept that ‘practices and beliefs are about or oriented towards something and by someone’ (Maton, 2014, p. 29). This distinction between knowledge (what is taught and how it is taught) and knowers (who is knowing the knowledge and enacting the practices) enables a more complete perspective on a discipline, as it is possible to address the beliefs, attitudes and dispositions of the people involved in a field as well as the topics and activities that comprise teaching and learning. Rather than taking an individualistic and cognitive view of teacher beliefs, Specialisation is a sociological theory, which means that it meshes with views of disciplines as social communities of practice. In addition, as well as being a theoretical framework, Specialisation can be used as an analytical tool for exploring knowledge and knowers.

A dual perspective on knowledge and knowers helps to determine the basis of ‘legitimation’ in Business Studies and Music, that is, the basis on which knowledge claims are made. This addresses how people in the field determine ‘*who* can claim to be a legitimate knower’, for example, how a successful student or an effective teacher is determined, and ‘*what* can legitimately be described as knowledge’, whether empirical facts or personal interpretations of ideas (Maton, 2014, pp. 29, original emphases). The varying ways in which disciplines ‘legitimate’ knowledge can be described in terms of orientations towards knowledge or knowers. For example, teachers’ attitudes and practices may reveal that, in a particular classroom or in an assessment task, it is more

important for students to display skills and understand subject content (a stronger focus on knowledge) or to possess particular attitudes and dispositions (a stronger focus on knowers). Specialisation codes build on Bernstein's concepts of classification and framing (Bernstein, 1977). Maton's development of Bernstein's code theory incorporates classification and framing of knowledge and adds classification and framing of knowers. In this way, classification and framing are built into Specialisation codes and so they make it possible to analyse stronger or weaker epistemic relations to knowledge and stronger or weaker social relations to knowers.

There are four Specialisation codes of legitimation that show relatively stronger (+) or weaker (-) emphases on epistemic relations (ER) or social relations (SR). An example is provided for each code below, followed by a diagram (Figure 2.5); however, it is important to recognise that there are no ideal types (Maton, 2014).

Knowledge code ER+ SR-

A knowledge code, located in the top left quadrant of Figure 2.5, exists when success is determined by 'possession of specialist knowledge of specific objects of study' (Maton, 2014, p. 76) and the qualities or dispositions of the knower are not as important as the basis of achievement or validity. For example, the study of Physics is considered to be a knowledge code because the focus of the subject is on concepts, skills and knowledge to be learned. No special dispositions are required to study Physics, as long as the knowledge and skills are acquired.

Knower code ER- SR+

In contrast, a knower code, located in the lower right quadrant of Figure 2.5, is one in which ‘who you are’ matters more than ‘what you know’. Achievement is determined by the attitudes and dispositions of knowers, including genius or talent (as in the case of musical performance) or a trained ‘gaze’ (as in the possession of artistic or literary sensibilities) or it is determined by social position (Maton, 2014, p. 76). For example, the curriculum of subject English has been described as a knower code (Macken-Horarik, 2011) due to its privileging of the ‘who’ of the discipline over the ‘what’. While there is disagreement about what is to be studied in English courses, and which novels, poetry, dramatic works, movies, etc. should be included in the curriculum, the knower is paramount. Achievement in subject English is based on the personal views of teachers, students and ‘esteemed names in the field’ rather than on explicit knowledge criteria (Macken-Horarik, 2011, p. 199). This makes subject English a knower code.

Elite code ER+ SR-

In an elite code, in the top right quadrant of Figure 2.5, both specialised knowledge and knower dispositions are important. For example, performance in HSC Music is an elite code because students are required to show skills as well as innate musical talent. Markers’ comments for performance state that ‘in better performances, candidates ... demonstrated high levels of technical and interpretive skill’ that ‘allowed their musicality to be fully showcased’ (Board of Studies NSW, 2009a, p. 4). This means that only special kinds of knowers can achieve, those with innate musicality, and they need a special kind of knowledge as well, ‘technical skill’. In this way, the performance strand of the Music curriculum is an elite code.

Relativist code ER- SR-

The bottom left quadrant of Figure 2.5 represents a relativist code, where neither knowledge nor knowers are privileged and ‘anything goes’. Classroom activities, such as journal writing, with no particular knowledge focus and no criteria for evaluating achievement, could be described as a relativist code.

The relative orientations to epistemic and social relations of these four Specialisation codes are shown in Figure 2.5.

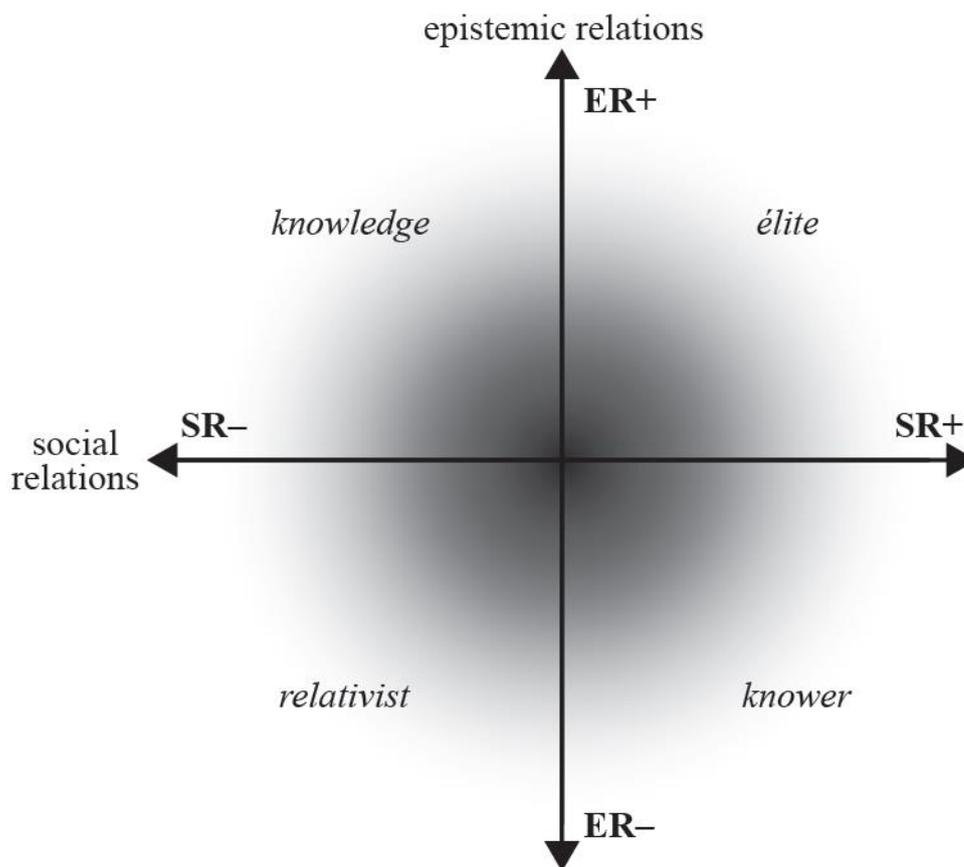


Figure 2.5: Specialisation codes

(Maton, 2014, p. 93)

One study involving Specialisation is particularly pertinent to the current research. A study of school Music in the UK aimed to determine possible reasons for the unpopularity of the subject in the senior years (Lamont & Maton, 2008, 2010). At the time, only eight per cent of students chose to take GCSE Music, the course in the final years of schooling, compared with other more popular subjects like art or physical education. To explore this difference, curriculum documents were analysed to identify Specialisation codes. It was found that in the early years of schooling, Music privileged the dispositions of knowers and the personal capacities of students for expression, thus representing a knower code. In the middle years, students were required to show an ‘increasing ability to discriminate, think critically and make connections between different areas of knowledge’, a knowledge code. However, at the time of senior schooling and the GCSE course, there was a further ‘code shift’ to an elite code. Students were required to give performances that were both accurate and expressive, showing that achievement was based on musical talent as well as knowledge. This shift to an elite code was determined as ‘one possible reason for low uptake’ (Maton, 2014, p. 79). To test this hypothesis, a survey was undertaken with 912 middle years students at four schools and with 93 first year university students to ascertain student perceptions of different subjects and the significance of ‘skills, techniques and specialist knowledge’, ‘natural born talent’ or ‘taste, judgement or a developed “feel” for it’. Follow-up focus groups were also conducted. Results indicated that students perceived that Music required both ‘skills’ and ‘talent/taste’, indicating an elite code. In contrast, subjects like Science and Psychology scored higher for ‘skills’ and lower for ‘talent/taste’, indicating Science and Psychology as knowledge codes in contrast to Music’s elite code (Maton, 2014, p. 80). The research concluded that Music may be unattractive to students as its elite code makes achievement particularly challenging.

This study is also interesting for methodological reasons. It reveals how epistemic and social relations can be explored in various objects of study, including curriculum documents and interview data. For these reasons, Specialisation has been incorporated in the methodology for the current research.

Further studies using Specialisation have led to insights into ‘code clashes’ and ‘code matches’ which are also relevant. A study by Howard and Maton (2011) used Specialisation to explain why some subject areas were more likely than others to use technology in their teaching. An analysis of official documents from the Department of Education revealed that the use of laptops in schools was intended to increase the focus on the personal capacities of students, and their creativity and expression, while reference to knowledge or differences between subjects were downplayed. This revealed a knower code aligned with the introduction of technology in schools, with stronger orientations to social relations and weaker orientations to epistemic relations (Howard & Maton, 2011, p. 200). When Mathematics teachers and English teachers were surveyed about their uptake of technology, Mathematics teachers were less likely to integrate technology into their teaching than English teachers. Mathematics, like Physics in the example above, is a knowledge code that privileges specialised content knowledge and does not require any particular student dispositions for success. It could be perceived that Mathematics is a ‘code clash’ with the knower code of introducing technology into schools. While not wanting to ‘essentialise’ disciplines by over generalising, Specialisation has been shown to provide insights into contrasting disciplinary practices and attitudes in order to ‘negotiate code clashes and enable code matches’ (Howard & Maton, 2011, p. 204).

The concept of code clashes and code matches is pertinent as it provides a means of explaining why the literacy intervention in the current research was welcomed by some teachers and resisted by others. Explanation of code clashes will help to provide insights into the potential pitfalls of literacy interventions and research. Further, Chapter 7, where the intervention is described in detail, will suggest strategies for how to ‘negotiate’ code clashes and therefore how to maximise the potential of a literacy intervention.

By enabling a focus on knowers as well as on knowledge, Specialisation makes it possible to develop the L_PCK model to incorporate teacher attitudes and beliefs. The model of teacher content knowledge, pedagogical knowledge, learner knowledge and literacy knowledge will be expanded at the conclusion of this thesis to incorporate teacher *attitudes* to these areas. In this way, the proposed model will account for ‘the complex inter relatedness of many factors in the realisation of educational benefit; particular in terms of learners’ needs, teachers’ attitudes and experience and teachers’ subject knowledge’ (Myhill et al., 2012, p. 162). This will enable a richer and more differentiated picture of literacy education, one that makes the covert demands of the curriculum more overt, and one that enables new perspectives on the challenges of disciplinary literacies in secondary subject areas.

2.5 Conclusion

This chapter has covered several broad themes in education research linked to the concepts of ‘knowledge’ and ‘knowers’. Disciplines have been presented as social communities of practice that take on different forms in different fields: universities, schools and classrooms. The flow of knowledge and the transformations in forms of knowledge between these fields have been problematised, particularly in terms of the

challenge faced by teachers and students when attempting to convert syllabus dot points into successful HSC examination answers. The importance of explicit teaching and cumulative knowledge building has been raised as a way of supporting student achievement in learning about the discipline and of creating answers that achieve high marks in examinations.

In addition, the concept of disciplinary literacies has been explained. The key insight emerging from the review is that analysis of literacy practices not only builds understanding of how to write but also of how to be a member of a discipline. The close analysis of student texts presented in this thesis, using the resources of SFL and SF-MDA, therefore, will have implications for disciplinary knowledge building in Business Studies and Music.

Finally, the third section of this review introduced the argument that teacher epistemologies are related to teacher knowledge and effective teaching and learning. Building on this argument, the LPCK model was presented as a means of conceptualising what teachers need to know about content knowledge, pedagogical practices, learners and literacy. In addition, the importance of teacher beliefs about literacy, learning and learners has also been raised. LCT(Specialisation) has been proposed as an analytical tool for evaluating both teacher knowledge and knowers. By drawing on sociological as well as linguistic theories, this thesis aims to address issues of teacher LPCK as well as teachers' negative attitudes towards literacy and to their students. In summary, this literature review has identified potential areas where this thesis can make contributions to our understanding of knowledge, disciplinary literacies and effective teaching.

The following chapter outlines the methodology used in this research in two stages. The first stage explores the nature of disciplinary literacies in Business Studies and Music and the second stage applies this knowledge to practical settings in five case study classrooms. The methodology will explain how this research will achieve its goals of building understanding of the theory and practice of disciplinary literacies in secondary schooling.

CHAPTER 3: Methodology

3.1 Research orientation

Investigating the theory and practice of disciplinary literacies in secondary schooling requires a mixed methods approach and a study in two stages, combining both discourse analysis and a pedagogical intervention. To answer RQ 1, this research maps the literacy demands of the HSC examination in two subjects using discourse analysis tools derived from social semiotics, a theory of language (SFL) and an analytical framework for images derived from that theory (SF-MDA). Next, to answer RQ 2 and RQ 3, these theories are applied to a pedagogic intervention aimed at improving student writing in the high-stakes testing environment of the HSC examination. In this way, theories of disciplinary literacies are operationalised or put into action in an intervention with teachers and students.

Addressing the theoretical and practical aspects of disciplinary literacies requires analysis of a range of perspectives and diverse sources of data. Consequently, a mixed methods approach is appropriate. Mixed methods research integrates a number of methodological approaches, accounting for a range of data sources, and analytical methods that can explore complex environments such as secondary schools. Conducting mixed methods research involves ‘collecting, analysing, and interpreting quantitative and qualitative data in a single study or in a series of studies that investigate the same underlying phenomenon’ (Leech & Onwuegbuzie, 2009, p. 267). Mixed methods are suitable for a pragmatic, ‘practice-driven’ project (Denscombe, 2008, p. 280), allowing for multiple perspectives on reality and oriented to practical problems, such as how to improve student writing for the HSC.

To address the research questions, analytical methods involve quantitative and qualitative approaches, including evaluation and grading of student writing, empirical analysis of linguistic and semiotic features of successful texts, as well as exploration of social dynamics involved with planning and conducting a pedagogical intervention. Accordingly, this study has a fully mixed concurrent dominant status design (Leech & Onwuegbuzie, 2009, p. 271) where both qualitative and quantitative data are collected throughout the research to answer the same questions, but where qualitative data has the more privileged status. Each of these data sources and analytical methods will be described and explained in this chapter.

3.2 Scope: Business Studies and Music

Research of Business Studies and Music may seem like an unusual combination. Business Studies is, after all, derived from the Social Sciences, while Music is one of the Creative and Performing Arts. Yet it is the contrast between these two subjects, and more specifically the literacy demands placed on students by these two subjects that has become a central feature of both the research design and the findings. The origin of this aspect of the research design lies in my own professional experience, which includes employment, teaching and curriculum leadership in both subject areas. Thus, I have an insider's appreciation of each field and of the special challenges of teaching each subject.

In secondary schools, despite their very different origins in the academic disciplines, Business Studies and Music have something else in common: they are popular and they tend to attract a diverse range of students. Of all HSC subjects in New South Wales studied in 2012, Business Studies had the fourth highest candidature (after English, Mathematics and Biology), accounting for 21% of the student cohort. Music was

slightly less popular, ranking fourteenth with 7% of the total candidature (Board of Studies NSW, 2012c). Moreover, both these subjects tend to be chosen by a diverse range of students, including many lower achieving students. Neither subject has a prerequisite for study, and each has a more academically challenging 'sister' course usually chosen by students considered more able. The more academically challenging alternative to Business Studies is Economics, which has a theoretical and financial focus. In Music, there are two courses available for study. Music 1, the focus of this research, has no prerequisites for study, whereas Music 2 requires knowledge of music theory and high levels of performance and composition skills. Because they are considered less demanding, Business Studies and Music are open to all students, including those with lower literacy skills, as reflected in HSC results. HSC examination results are arranged in six achievement bands, with Band 6 the highest and Band 1 the lowest. Business Studies, in particular, has a track record of low achievement, as nearly a third of students who sat for the HSC in 2012 achieved a result in the lowest two bands (Universities Admissions Centre NSW & ACT, 2013, p. 32). Consequently, it can be argued that students studying these subjects are potentially more likely to benefit from explicit support in constructing a successful HSC answer.

Exploring both Business Studies and Music provides rich data for comparison and contrast. Comparative analysis can reveal features that only appear in one subject or the other, and as will be shown, the many differences between these two subjects are also thrown into sharp relief by comparative analysis. Commonalities in the teaching of these two subjects can provide insights into more generalised features of secondary schooling, such as the existence of a 'hidden curriculum' in each subject and the lack of explicit guidance about how to write. The research design in two stages will not only define and explain the disciplinary literacies of these two subjects but also, the research

will help to reveal the nature of challenges faced by secondary students and teachers in teaching and learning these literacies.

3.3 Research design

The two-stage design of this research reflects the complementary aims of building understanding of theory and practice of disciplinary literacies. Stage 1 of the research involves discourse analysis of successful answers in HSC examinations for Business Studies and Music, thus answering RQ 1. In Stage 2, theoretical understandings developed in Stage 1 are applied in five case studies, exploring the answers to RQ 2 and RQ 3. Figure 3.1 shows how the research questions connect with the two stages of the research and how Stage 2 of the research flows from Stage 1.

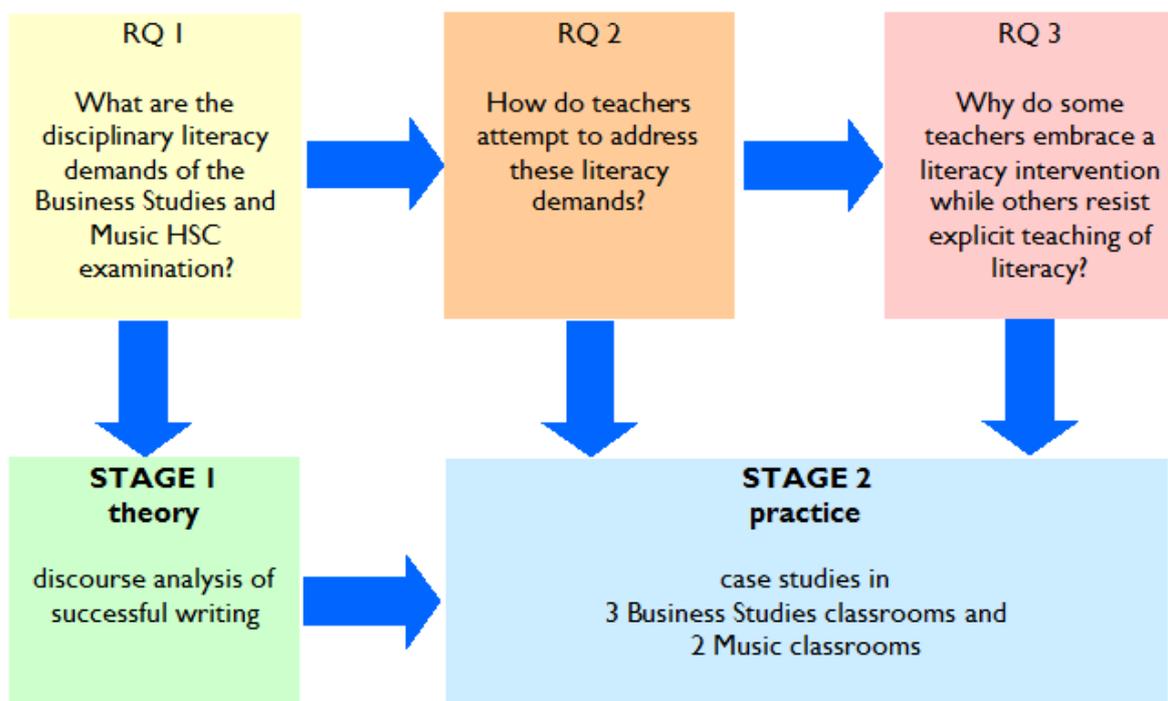


Figure 3.1: Design of research stages and links with research questions

The next section describes the methodology, data sources and analysis methods for each stage of research.

3.4 Stage I: discourse analysis

The first stage of the research answers RQ 1 through discourse analysis. Discourse analysis involves analysing language use in particular contexts to help us ‘understand why we make particular language choices and what we mean by these choices’ (Paltridge & Wang, 2010, p. 256). To undertake discourse analysis, this study draws on Systemic Functional Linguistics (SFL) theory. According to SFL theory, ‘reality is unknowable; the only things that are known are our construals of it – that is, meanings’ (Halliday & Matthiessen, 1999, p. 17). In SFL discourse analysis, texts are analysed to reveal ‘the social as it is constructed through texts’ (J. R. Martin & Rose, 2007, p. 1). So the aim of Stage 1 of the research is to determine how meaning is construed through texts (student examination answers) in a particular context (the HSC examination) and what this tells us about the knowledge structure of the subject areas and the nature of disciplinary literacies in secondary schooling.

3.4.1 Principles of text selection

To investigate the literacy demands of each subject area, successful student responses to examination questions in the HSC examination at the end of Year 12 were collected. HSC examination answers represent the culmination of learning disciplinary knowledge in schooling. Successful HSC answers also illustrate ways of writing about that knowledge that are most highly valued by the teachers who mark the HSC examination. HSC examination papers are also used as models for the design of assessment tasks in Years 11 and 12. Therefore, HSC examination answers are representative of student writing undertaken throughout the senior years of schooling. The way these texts are evaluated by teacher examiners can, therefore, provide insights into the most critical features of disciplinary writing.

HSC examinations are made up of multiple parts. In the three hour Business Studies examination, students complete multiple choice answers, short answers and two extended responses. The term ‘extended response’ is used by the Board of Studies for an essay or longer piece of writing. The first extended response is a business report, using a format that includes headings and sections, with an executive summary and recommendations. The second extended response is a more typical essay. Initial surveys of business report texts in this study indicate wide variation in structure, staging and formats. Consequently, the simplest text, the essay-type extended response, was selected for analysis. In Music 1, in a 60 minute aural examination, Music students listen to four different excerpts of music several times. While they listen, students compose answers to questions about how the concepts of music are used in the musical excerpts. These aural examination answers are the focus of analysis for Music. Strategies for selecting representative samples of these texts are explained in detail in the next section.

3.4.2 SFL discourse analysis methodology

The methodology for the discourse analysis stage is based on SFL theories of language, drawing on steps for analysis suggested in a range of sources including Martin (1992), Martin and Rose (2007) and Eggins (2004), as well as from genre theorists outside the SFL tradition including Bhatia (1993). My methodology involved these steps:

1. Analysing the HSC examination context
2. Surveying HSC examination questions and answers
3. Selecting texts for detailed analysis
4. Discourse analysis
5. Developing a research map
6. Testing and revising the research map.

1. Analysing the HSC examination context

The official ‘rules of the game’ for writing in the HSC are laid down in documents produced by the NSW Board of Studies. The syllabus outlines course objectives, topics to be studied and outcomes to be achieved in the course. Assessment support documents describe types and weightings of assessment tasks for the course. Initial analysis of these documents involved selecting sections of official documents and arranging them in analysis tables for later reference. Selected sections included:

- syllabus rationale statements
- statements regarding knowledge to be taught, including topics and sub-topics to be covered in the course
- marking criteria for writing, specifically extended responses
- examination format, prescribed assessment weightings and components from assessment support materials
- statements regarding literacy demands of the subject area, including any reference to reading or writing, and in the case of Music, notations and diagrams

In addition, markers’ comments were also surveyed. After each year’s HSC examination, the Board of Studies publishes markers’ comments about the features of successful and unsuccessful answers from that year. Markers’ comments from 2001-2012 were surveyed, with comments from 2001, 2002, 2011 and 2012 selected for more detailed analysis. The 2001 and 2002 markers’ comments relate to the student work chosen for detailed analysis (see below). The 2011 and 2012 markers’ comments were also analysed to ensure relevance and currency. Data from Step 1 were arranged in summary tables, to provide a basis for comparison against findings in Steps 2 and 3.

2. Surveying HSC examination questions and answers

Student texts for analysis were selected according to principles of ‘purposive sampling’, a process where cases or samples are hand-picked on the basis of their typicality or possession of particular characteristics (Cohen, Manion & Morrison, 2011, p. 156). In order to identify suitable texts, a survey was undertaken to identify a ‘typical case’, a strategy known as ‘intensity sampling’ (Teddlie & Yu, 2007, p. 81). Analysis of ‘typical’ successful texts makes generalisations possible about linguistic and semiotic resources deployed by high achieving writers. In each subject, two initial surveys were undertaken in order to select the most typical and representative writing from each subject. Surveys were conducted of:

- HSC examination questions from 2001-2011
- Standards Packages comprising multiple examples of graded answers from past HSC examinations in 2001 and 2002, arranged in mark bands.

Firstly, a survey was conducted of Business Studies HSC examination questions from 2001-2011. Each year, there are two questions for students to select from, so 22 questions from extended responses were analysed to determine the syllabus topic/s they relate to, the instruction used in the question (e.g. discuss, explain, describe) and whether the question was in one part or multiple parts. The most typical question was found to be a two-part question, so an answer responding to this type of question was selected for detailed analysis.

For Music, each HSC paper for the aural examination has four questions, so 44 questions from exam papers from 2001-2011 were analysed. Criteria for analysis included the focus of the question, that is, whether students were required to write about one concept of music or all the concepts, a principle of composition (unity, contrast,

etc.) or to compare two musical excerpts. Question types were sorted and counted. Analysis showed that students can be directed to write about any of the following syllabus elements:

1. concepts of music: 56% of questions

Students can be asked to write about one concept, two concepts or all six concepts of music:

e.g. *Describe how the concepts of music are used in this excerpt.*

2. unity, contrast etc.: 42% of questions

This category of examination instruction is not specified or named in the syllabus, but ‘principles of composition’ for this type of question have been proposed in this study. Questions can refer to principles of composition alone:

e.g. *Describe how unity and contrast are achieved in this excerpt*

... or they might ask students to link a principle of composition with a concept of music:

e.g. *Focusing on the concept of pitch, describe how contrast is achieved in this excerpt.*

3. comparison of two different musical excerpts: 4% of questions

e.g. *Describe the differences in the musical treatment of each excerpt.*

The two most common examination answers are types one and two, which focus on both a concept and a principle of composition, so answers to these questions were identified for possible close analysis.

Standards Packages are an online resource containing graded examination papers from past HSC examinations. Even though 2001 and 2002 HSC Standards Packages are more

than ten years old, they remain the only corpus of graded student writing for the HSC available to secondary teachers in New South Wales. Standards Packages provide an objective, official standard of what constitutes a successful text (e.g. an exemplar or Band 5/6 answer) against which other student writing can be evaluated. The Standards Packages feature multiple examples of answers to the same question. For example, the Business Studies 2012 Question 29 had 15 answers available for analysis:

- two exemplar answers (that is, answers that achieved a mark in the highest range, a Band 6)
- 3 answers that achieved a mark on the borderline of Band 5/6
- 3 answers that achieved a mark on the borderline of Band 4/5
- 3 answers that achieved a mark on the borderline of Band 3/4
- 2 answers that achieved a mark on the borderline of Band 2/3
- 2 answers that achieved a mark on the borderline of Band 1/2

Borderline examples are provided by the Board of Studies to show the cut-offs between bands of marks and to help teachers identify the difference between a Band 5 and a Band 6 answer, and a Band 4 and a Band 5 answer and so on. Similarly, the Standards Packages for Music also contain at least one exemplar and 11 or 12 other answers in various mark bands.

In order to conduct an initial survey of Standards Packages, the Board of Studies website was accessed and every examination answer available for Business Studies and Music for 2001 and 2002 was printed. The purpose of the survey was to prepare an overview of student writing, including general features such as answer length, format and appearance, and multimodal features. In Business Studies, a total of 62 examination answers were surveyed and in Music, 117 answers were surveyed. These answers were

analysed for length, surface features and appearance such as use of headings, inclusion of images or diagrams. Music answers were found to be an average of two pages in length, with Business Studies answers running from six to ten pages or longer depending on the size of the student's handwriting. Since Music answers are relatively short, it was determined to select two of these answers for detailed analysis and only one Business Studies answer. Business Studies extended responses tended not to include any visual elements. As Music answers were found to contain a variety of diagrams and images, these are discussed in the multimodal discourse analysis methodology in Section 3.4.3.

3. Selecting texts for detailed analysis

In Business Studies, an answer to a two-part HSC question from 2002 was chosen. The question was worded as follows:

Outline the reasons why businesses expand globally, and critically analyse the political, social/cultural and management issues that arise with a global workforce. (2002 HSC Question 29)

An exemplar answer to this question was selected for analysis from those answers that received the highest possible grade (Band 6). Of two possible exemplars, the one chosen for detailed analysis was published by the Board of Studies in a book of model examination answers (Board of Studies NSW, 2003b). The exemplar chosen for detailed analysis comprised two parts, totalling 1163 words in length. The entire text was analysed for genre and staging features but, to keep the analysis manageable, only Part 1 of the student's answer has been analysed for lexico-grammar.

For Music, two examination answers were selected for detailed analysis. The answers selected were responses to the two most popular questions, one about concepts of music and the other about a principle of composition.

Concept of music question: Describe the structure of this excerpt. (2002 HSC Question 1)

Principle of composition question: How is contrast created in this excerpt? (2002 HSC Question 3)

One exemplar answer to each question was selected from the 2002 Standards Packages. Original copies of these examination answers in the students' handwriting are provided in Appendix A.

4. Discourse analysis

In order to gain an exhaustive understanding of linguistic resources deployed in the answers, detailed discourse analysis and lexico-grammatical analysis of the three chosen texts was undertaken. Discourse analysis involved identification of genre as well as ideational, textual and interpersonal meaning-making resources according to SFL theory. Key concepts in SFL relevant to this analysis are explained in Chapter 4. Initially, the text, *An introduction to Systemic Functional Linguistics* by Eggins (2004), was used as a model for analysis because this text demonstrates how to conduct a comprehensive analysis of one text using a range of SFL analytical tools. Following Eggins' model, the selected Music and Business Studies texts were analysed for these aspects of meaning:

- Genre
- Interpersonal meaning: Mood
- Ideational meaning: Transitivity, Lexical relations

- Logico-semantic meaning: Logical relations in clause complexes
- Textual meaning: Theme, Conjunctive relations, Reference.

While this analysis determined many important features of the texts, there were two areas not covered in Eggins' analysis. In order to describe ideational meanings in the exemplar texts in more detail, activity sequences and nuclear relations were analysed (J. R. Martin, 1992; J. R. Martin & Rose, 2007). In order to describe interpersonal meanings in more detail, the use of appraisal, including judgements, evaluations and emotions were also analysed (J. R. Martin & Rose, 2007; J. R. Martin & White, 2005). Only the aspects of this analysis relevant to key findings will be discussed in detail in this thesis.

5. Developing a research map

In order to synthesise findings from the initial discourse analysis, a summary table was developed, containing the main linguistic features identified in the analysis of the three examination answers. The summary table became a research map, against which other answers were evaluated in the next stage of analysis. The initial research map categories for this first analytical step are shown Table 3.1. These categories derive from the lexico-grammatical analysis proposed by Eggins (2004).

Table 3.1: Initial research map - HSC writing in Music and Business Studies

	Music aural exam answers	Business Studies extended response
Genre		
Staging		
Multi-semiotic features		
Lexical density		
Logico-semantic resources and Taxis		
Experiential resources: i) Participants ii) Processes iii) Circumstances		
Expansion in nominal groups		
Technicality, abstraction, grammatical metaphor		
Interpersonal resources i) MOOD ii) appraisal iii) modality		
Textual resources i) Theme ii) Cohesion iii) Reference		

Initially this table contained a large amount of data, entered in a tiny font size. However, this level of detail was refined through evaluation against a larger data set using principles of inclusive sampling, a process described in the next section.

6. Testing and revising the research map

Rather than analysing every examination answer on the Board of Studies website with the same level of detail as the initial discourse analysis, the research map was used as a set of criteria against which other texts could be evaluated. This strengthens ‘representativeness’ (Hyland, 2010), that is, it shows how a small number of texts are typical of a larger sample. The purpose of this stage of analysis was to find out if the salient features in the research map were consistent with other high achieving texts, and to find out what features are missing or different in low performing texts.

Findings about features of successful writing were tested against unsuccessful answers, that is, ‘deviant cases’ that go against the norm, thus, showing ‘whether a generalization is robust or breaks down’ (Hepburn & Potter, 2004, p. 190). By analysing lower achieving answers from the bottom mark bands, as well as the most successful answers, sampling of ‘the most extreme successes or failures are expected to yield especially valuable information about the topic of interest’ (Teddle & Yu, 2007, p. 81). To test the research map in Business Studies, analysis involved an additional five successful answers (Exemplar and Band 5/6) and three less successful answers (achieving Band 2/3 and Band 3/4). In addition, two successful texts from a range of HSC questions were evaluated to find out if the type of question made a difference to language features found in the extended response. In Music, a further three successful student texts and three less successful texts were analysed from four different exam questions. Additionally, a brief survey was made of all 117 music texts in the Board of Studies Standards Packages to identify instances of images as explained further below and in Chapter 5.

Summary tables were created for analysis results using criteria from the research map. The excerpt below shows how six additional Music texts were evaluated for an aspect of field, participant types, that is, the people, places and things in a text. Music Texts 1 and 2 featured five types of participants: performing media (instruments or voice), concepts of music, principles of composition (such as unity and contrast), ‘the piece’ and ‘the composer’. Six other answers were examined to determine if these types of participants were also found. A tick indicates that the participant type was found, with the number of different types recorded next to the tick. For example, if three concepts of music were mentioned (e.g. pitch, duration and texture), then the number 3 is included. A cross indicates that the participant was not found in the text. In this analysis, the first

four types of participants are found in five or six texts but ‘the composer’ was not found in any others, as shown in Table 3.2.

Table 3.2: Excerpt from analysis summary tables - Music

Features of Music Text 1 & 2	High achieving texts			Low achieving texts			
	Text 3 Exemplar	Text 4 Band 5/6	Text 5 Band 5/6	Text 6 Band 2/3	Text 7 Band 2/3	Text 8 Band 2/3	
Experiential resources:	5 main types:						
i Participants	1. performing media	✓	✓	✓	✓	x none	✓
	2. concept of music	✓ 4	✓ 5	✓ 3	✓ 3	✓ 5	✓ 4
	3. principle of composition	✓	✓	✓	x	✓ 2	✓ 2
	4. the piece	✓	✓	✓	✓	✓	x
	5. the composer	x	x	x	x	x	x

Changes were made to the research map after this analysis. For example, ‘the composer’ participant type was removed from the research map as it is not indicative of features of a wider range of texts. This process of analysis was undertaken for all criteria in the research map for both Business Studies and Music.

As a consequence of analysis against other texts in Step 5, the research map became representative of salient features found in a wider range of successful texts. The issue of salience is considered in relation to Stage 2 of the research. As a short intervention was planned, only a few language features could be taught in the available time. Given the limited time available for the intervention, the research map had to be cut down to make the amount of linguistic knowledge more manageable for only two lessons.

Consequently, the research map was revised to focus on the most important features, ones that would ‘make or break’ a successful answer.

The final research map, presented in Chapter 4 (Table 4.20), was a bridge that linked the two stages of the research. By focusing on salient features, rather than all features, the research map was no longer exhaustive but became a more manageable research tool.

The research map was a means of moving between disciplinary linguistic knowledge and actual texts, and between systems of meaning and instances of language in use. Even though the entire repertoire of possible linguistic resources was not included in the research map, each linguistic feature was a selection from complex systems of meaning-making resources. Therefore, selections in the research map were theoretically sound.

The research map was a practical tool that enabled the researcher to analyse large numbers of student work samples, and to quickly and easily identify weak areas that could be addressed in the intervention. The research map also informed discussion with teachers in pre-intervention interviews. Furthermore, during the intervention, the research map was transformed into a pedagogic rubric for use by teachers and students. This transformation process is described in Chapter 6, with pedagogic rubrics presented in Figures 6.2 and 6.13.

One element of the research map for Music involved the use of diagrams and images in successful answers. The next step in discourse analysis was to examine these multi-semiotic features more closely.

3.4.3 Multimodal discourse analysis methodology

As described above, many successful Music answers contain images: traditional music notation, graphic notation, tables and graphs. To analyse these musical images, Systemic Functional Multimodal Discourse Analysis (SF-MDA) was used. This approach adapts and applies theories of SFL discourse analysis in language to a range of semiotic resources, including images. This process of analysis was followed:

1. Survey of texts for analysis
2. Systemic Functional Multimodal Discourse Analysis
3. Testing of findings

1. Survey of texts for analysis

Two sources of data were surveyed: examples of student answers from past HSC examinations in Standards Packages and student answers collected from two Music classrooms. An initial survey was conducted on all 117 answers available in the Standards Packages from 2001 and 2002. As shown in Table 3.3, around a quarter of answers in the corpus included at least one musical image, with higher achieving answers featuring more images than low achieving ones. The highest mark band is shaded, as these are the most successful answers in the corpus.

Table 3.3: Number of images in HSC Music Standards Packages 2001-2002

Mark band	Number of answers	Number of answers containing at least one image
Band 5/6 and exemplar	28	17
Band 4/5	24	6
Band 3/4	23	3
Band 2/3	22	5
Band 1/2	20	3
Total	117	34

As indicated in Table 3.3, of the 28 texts in the highest mark band, more than half (17 texts) contained at least one image and five of these contained more than one image.

Each of the images in texts that achieved the highest band was subject to detailed analysis in Step 2.

2. Systemic Functional Multimodal Discourse Analysis

The 17 answers that achieved a result in the highest band were analysed according to two guiding questions:

1. What kinds of images do students create?
2. What kinds of meanings are conveyed in these images?

In answering the first question, each image was described based on the visual grammar of *Reading Images* (Kress & van Leeuwen, 2006). This text presents the main analytical framework for images based on the SFL tradition. Analysis and description of images resulted in a typology of images, provided in Chapter 5.

To answer the second guiding question, each image was analysed in reference to what had been discovered about disciplinary characteristics of successful answers. In the discourse analysis reported in Chapter 4, successful Music answers:

1. specify performing media
2. refer to features of concepts of music
3. refer to principles of composition, and
4. relate every 'finding' or descriptive statement to a specific time in the music.

These four characteristics were used as criteria for evaluating intersemiosis, that is, how language and/or image construe meaning in examination answers. An analytical table was developed as a heuristic device for aspects of meaning actualised in a verbiage and image complex. This table was developed from a similar table that analysed images and verbiage in children's picture books (Painter et al., 2013). As shown in Table 3.4, the column on the left lists performing media, names of system networks and sub-systems (e.g. pitch, melody, harmony), principles of composition and musical time (temporal specification). Any expressions of meaning in the wordings of the answer were recorded under the heading of 'verbiage' or 'label'. Any expressions of meaning in a musical

image were recorded under the heading ‘image’. Completed analytical tables are provided in Chapter 5.

Table 3.4: Analytical table for aspects of music expressed in verbiage and image

Aspect of music	System or taxonomy	VERBIAGE		IMAGE
		Main text	Label	
Performing media	instruments			
Pitch	e.g. melody e.g. harmony			
Duration				
Dynamics				
Tone colour				
Expressive techniques				
Structure				
Texture				
Principles of composition				
Temporal specification				

3. Testing of findings

Following analysis of successful answers, the remaining 34 instances of images in less successful texts were also evaluated. Findings were also assembled in the analytical table, i.e. Table 3.4. The next step was to compare the musical images found in Standards Packages with those from the classrooms participating in this study. Two Music teachers provided model examination answers, some containing images, and these, together with 55 pieces of work from seven students, comprise the second corpus of student work. The second corpus was surveyed and all images were collected and sorted according to the typology developed in Step 2 of this analysis process. Five of seven images types were found in the second corpus. Three instances of each image were analysed using analysis tables exemplified in Table 3.4, and findings related to the

images were adjusted according to the new corpus analysis. Chapter 5 of this research uses musical images from the Standards Packages and from the second corpus of student work to support findings and conclusions.

This description of methodology and analytical methods has shown how discourse analysis revealed the features of disciplinary literacies in Business Studies and Music, in language and image. While these features comprise the ‘theory’ part of the research, in answer to the first research question, the second stage of research involves practical application of these theoretical findings in the context of secondary schools.

3.5 Stage 2: intervention and case studies

To explore the practice of disciplinary literacies, Stage 2 of the research project was designed around an intervention in five classrooms. RQ 2 and RQ 3 concern how teachers addressed the literacy demands of their subject and how teachers reacted to this intervention. In determining a methodology for this stage of the research, several challenges arose which led to changes to the research design.

3.5.1 From Classroom Action Research to case studies

The initial research design for Stage 2 of this study was Classroom Action Research, which involves close collaboration between the researcher and practitioner. This methodology was chosen because it is a popular research method in schools that results in change in the local situation (Cohen et al., 2011; Kemmis & McTaggart, 2000). Classroom Action Research seemed to complement the goals of Stage 2 of the research, which were to find out how teachers usually prepare students for assessment tasks and then to design and implement an intervention in which disciplinary literacies were explicitly taught.

Early in the study, however, because of constraints in time, challenges to successful implementation of Classroom Action Research became apparent. Time is a critical component of the Classroom Action Research model because it requires that researchers and teachers take time to develop a common vision, collaborate and reflect critically on their practice (Cohen et al., 2011, p. 350). Also, models of Classroom Action Research involve more than one iteration of the planning, acting, observing and reflecting sequence (Kemmis & McTaggart, 1996). Initially, it was intended that there would be the opportunity for extensive collaboration with teachers and for several new lessons to be taught over several weeks. However, all five teachers expressed concern over losing too much time away from their regular teaching. With only one or two lessons available for the intervention, it was clear there was insufficient classroom time available for Classroom Action Research cycles. As a consequence, an alternate research methodology was investigated for Stage 2 of the study.

Another research approach, Design Based Research (DBR) was found to be aligned with many of the intentions of the study. DBR involves 'educational design experiments' (Cobb, Confrey, diSessa, Lehrer & Schauble, 2003) which seek to innovate and, at the same time, to investigate these innovations (Morgan, 2013). Like Classroom Action Research, DBR is also designed around an intervention. However, unlike Classroom Action Research, DBR is oriented to testing theory rather than the more open ended collaboration involved in Action Research (Reinking & Bradley, 2008). As a relatively new and emerging research methodology, DBR had not been considered at the beginning of the research project. Time constraints again prevented this study from more exactly adhering to DBR principles. DBR involves mid-point re-evaluation of research goals (Reinking & Bradley, 2008), and this study only had

enough time for one intervention opportunity with students. However, the theoretical orientation of DBR was retained in the ultimate case study design.

As a consequence of insufficient time to do justice to either Classroom Action Research or DBR, Stage 2 of this study uses a case study methodology. Case studies are suitable when ‘research addresses descriptive or explanatory questions and aims to produce a first-hand understanding of people and events’ (Yin, 2006, p. 112). Since addressing RQ 2 and 3 involves first-hand accounts of teaching and learning of disciplinary literacies, case studies are appropriate. Moreover, case study design enables the complexities of secondary schooling, and limitations such as lack of time, to be explored with a ‘close (i.e. in-depth and first-hand) understanding’ of the situation (Yin, 2006, p. 111).

A ‘multiple case design’ (Yin, 2014) compares several case studies within one study, which is particularly appropriate when the issue under investigation is complex and many-faceted, such as the issue of disciplinary literacies. Each case study is of the type named by Stake (1994) as ‘instrumental’ and by Yin (2014) as ‘explanatory’, both having the same purpose, to test or gain insight into an issue or theory. The theory under scrutiny in this study is disciplinary knowledge of literacy practices in Business Studies and Music examinations. This theory is explored in Stage 1 and operationalised in Stage 2, providing ‘powerful human-scale data ... fusing theory and practice’ (Cohen et al., 2011, p. 291) about how disciplinary literacies can be taught and what happens when they are.

Case study research design is particularly appropriate for the current research, as this methodology has the capacity to embrace and build in unanticipated events and

uncontrolled variables (Nisbet & Watt, 1984). Unanticipated events did, in fact, emerge during the intervention, as will be explained below, and these could be fully explored through case studies. In this way, case studies ‘recognise the complexity of social truths and can represent something of the discrepancies and conflicts between viewpoints held by participants’ (Cohen et al., 2011, p. 292). This aspect of the study will be explored further in Section 3.5.5 ‘Unexpected events’.

3.5.2 Identification and recruitment of case study participants

In recruiting case study participants, the intention was to engage participation from at least two teachers from each subject in two different schools. Enlisting the participation of a variety of teachers had three potential advantages. Firstly, researching with more than one teacher for each subject would enable comparison between cases and it would also help to determine the extent of variability between cases. Secondly, from a practical point of view, if one teacher withdrew from the research for any reason, a ‘spare’ would enable the research to continue. Finally, researching in more than one school would enable a comparison of case study contexts, as school cultures can vary widely.

Recruitment of participants involved a combination of personal contacts and referrals by contacts. Catholic and independent schools were chosen as the site for research due to my teaching experience in these systems. At a professional development day I conducted for music teachers, I mentioned my upcoming research project and asked whether anyone was interested in hearing more. Two teachers who indicated their interest on that day became participants in the research. When I approached the Principal of the school where one of the teachers worked, he offered me the opportunity to invite the Business Studies teachers at his school to participate. These two Business Studies teachers also became participants in the research. The final participant was an

acquaintance with a reputation as a good teacher who had worked in several hard-to-staff schools in areas of low socio-economic status.

In the case study details which follow, all names of schools, teachers and participants have been de-identified to protect the privacy of participants. The three participating schools are:

- Northern College, a Catholic boys' school in Sydney's north-west;
- Western College, a Catholic boys' school in Sydney's west; and
- Coast College, a co-educational Anglican school located outside of Sydney in a coastal area of New South Wales.

Northern College and Coast College have slightly higher than average socio-economic profiles, based on the Index of Community Socio-Economic Advantage (ICSEA) publically available on the *My Schools* website. Despite its slightly higher than average ICSEA profile, results in standardised literacy testing at Northern College are lower than average and HSC results are also poor. Northern College and Western College attract cohorts of students from culturally and linguistically diverse backgrounds and also refugee backgrounds. In contrast, Coast College has a high socio-economic status and predominantly English-speaking background students. This school was included in the research due to the gender of students and the background of the teacher participating in the research. As Northern College and Western College are boys' schools, Coast College's co-educational student cohort was enlisted so that female students could also participate in the research, widening the scope of participation. As shown in Table 3.5, the profile of participating schools includes female and male students, two medium sized and one large school. Socio-economic backgrounds represent average and higher status communities. This was considered to be a reasonable range of contexts considering the small scale of the study.

Table 3.5: Profile of participating schools

School	Index of Community and Social Economic Advantage (ICSEA)*	Gender of students at the school	Number of students in the school
Northern College	1033	Male	527 (Yr 7-12)
Western College	999	Male	1124 (Yr 7-12)
Coast College	1098	Male and female	957 (K-12)

** (average 1000) Source: www.myschool.edu.au.*

The research targets student writing for the HSC examination, held at the end of Year 12. However, it was considered that teachers of Year 12 may be reluctant to sacrifice regular lessons for a literacy intervention. Year 11 students work from the same syllabus as Year 12 students but do not have to face the HSC examination until the following year. Therefore, Year 11 classes were selected as the focus of the case studies.

Teachers participating in the study represented a range of experience. Three of the teachers had around 10 years of teaching experience, another teacher had 18 years experience and another extremely experienced teacher was nearing retirement. Female and male teachers were also included in the participant profile. Each teacher taught one Year 11 class in the research except for Ava who taught two Year 11 classes. So in total, the research involved three schools, five teachers, six classes and work from 20 students, as shown in Table 3.6.

Table 3.6: Research participants: teachers and classes

Case	Teacher	Gender	Number of years as a teacher	Subject	Number of Year 11 classes	Number of students participating	School
1	Ava	Female	18	Business Studies	2	7	Coast College
2	Brian	Male	9	Business Studies	1	4	Northern College
3	Tony	Male	38	Business Studies	1	2	Northern College
4	Dianne	Female	8	Music	1	2	Northern College
5	Natalie	Female	9	Music	1	5	Western College

The number of students who returned Consent Forms is also shown in Table 3.6, representing, as can be seen, a relatively small number of student participants. While only a handful of students from each class returned Consent Forms and Assent Forms, all the students in each class participated in the intervention.

3.5.3 Protocols for consent and ethical research in schools

Before approaching potential participants, ethics approval was granted by the University of New England (Approval Number HE/162). Participant Information Statements, Consent Forms and Assent Forms were developed, explaining the research aims, objectives, timings and other important information, in language that was clear and easy to understand. The process of obtaining informed consent followed these steps.

1. For the two Catholic schools, an ethics application was submitted and consent was granted by the Catholic Education Office in Sydney to conduct research (Research Application 730).
2. I sent an Information Sheet for Principals and Consent Form to the Principals of Northern College, Western College and Coast College, and contacted each by

telephone and letter. Because Coast College is an independent school, there was no central authority to grant permission.

3. Once the Principals of Northern College and Western College had granted consent in writing, I visited both schools and approached the potential participants for an informal meeting to tell them about the research and to ascertain interest. When teachers from these two schools indicated that they were interested, I sent them an Information Sheet for Teachers and Consent Form. As Coast College is far from the researcher's base (800 km away), the teacher from this school was contacted by phone and email rather than in person.
4. I followed up with teachers by telephone and email and, after several weeks, the teachers replied and agreed to participate. I visited Northern College and Western College and discussed the Information Sheet for Teachers and Consent Form with each teacher. A phone meeting was conducted with the teacher at Coast College.
5. At Northern College and Western College, with each teacher's permission, I visited each class involved in the research and gave a short introduction to the research, leaving copies of Student Assent Forms and Parent Consent Forms with students. Students were informed that participation in the research was optional, that there would be no negative consequences if they declined involvement and that pseudonyms would be used if their writing was used or published. Students had the opportunity to ask questions about the research at this time.

Return of Consent Forms from parents and Assent Forms from students was problematic in this study. Many students who indicated interest in participation in the research forgot to bring their forms back or lost them. Despite repeated requests over

three terms, the number of forms returned by students was low. Out of a total of 101 students taught by the five teachers in the research, only 20 Consent Forms were returned, seven from Music and 13 from Business Studies. While the number of student participants was low, there was still a rich amount of data for analysis. From the twenty students, over a 100 pieces of writing (assessment tasks and class work) were collected for analysis over the three terms of the research period.

3.5.4 Case study design

The case studies involved two phases of research in Stage 2, as well as the collection of data from multiple sources and the application of several analytical tools. The first phase addressed RQ 2 to explore, firstly, how teachers prepare students for an assessment task in regular classroom practice, and how the literacy demands of the subject were addressed during this preparation. In each case study, two regular lessons were observed by the researcher in the lessons just prior to the Year 11 students' first Term 1 assessment task, a written task similar to one they would face in the HSC examination. During the observed lessons, class work was collected. When the students completed their first assessment tasks, these too were collected by the researcher. Student assessment tasks were independently analysed by the teacher and the researcher, and in the first interview with the teacher, the discussion covered the nature of disciplinary literacies in the subject as well as teacher evaluations of assessment tasks just completed by students. The weaknesses in student writing identified in these interviews by teachers became focus areas for two new lessons to be taught in Term 3, before the final examinations for Year 11.

In the second phase of the intervention, RQ 2 and RQ 3 were addressed, identifying how teachers and students responded to explicit teaching of disciplinary literacy in two new lessons. In Term 3, the two intervention lessons were taught, some by the teacher

and others by the researcher. Student work from these lessons was collected for analysis. After students completed their final assessment task, this work was also collected by the researcher for analysis. Unexpected research events were explored through informal discussions with teachers during the intervention as well as a final interview with teachers. The purpose of the final interview was to evaluate the research experience and fully explore teacher views, beliefs and attitudes to the research in answer to RQ 3. Relationships between the research questions and case study design are represented in Figure 3.2.

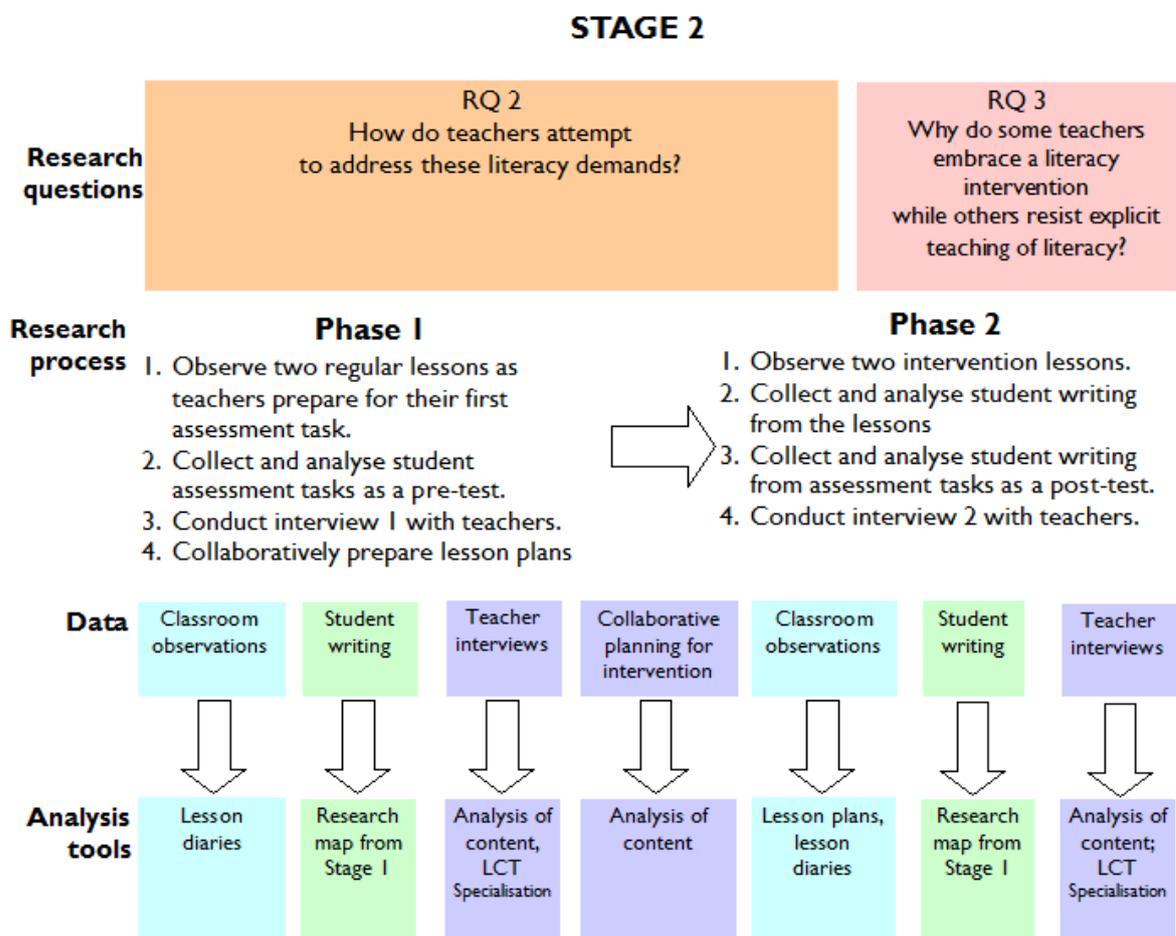


Figure 3.2: Case study research design

3.5.5 Unexpected events

Before proceeding further, it is necessary to outline unexpected events which occurred during the intervention. These had a significant impact on the direction of the study and on its findings. In two case studies, with Ava and Natalie, the intervention followed the original plans. In another three of the cases, the case studies involving Dianne, Brian and Tony, events unfolded in unanticipated ways. These unexpected events partly answer RQ 3, about how teachers respond to a literacy intervention, although a new analytical tool was required to determine connections between the data available and the events that occurred.

The intervention began with the teacher and the researcher collaborating to plan lessons. It was then intended that the teacher would deliver the new lessons. Three of the teachers, however, did not teach the planned lessons. Dianne did not teach according to the lesson plans. In addition, neither Brian nor Tony delivered the lessons as planned. At the last minute, they asked me to teach the lessons instead. When I attempted to do so in Brian's classroom, his students would not listen to me. After around 15 minutes of trying to gain the students' attention, I handed over the lesson to Brian and left. This was the last contact I had with Brian and despite repeated attempts to contact him, he did not respond. At this point, Brian's case study finished prematurely. Consequently, there is no data from Brian's case study for Interview 2. During my teaching of Tony's class, Tony did not seem to be paying attention and worked one-on-one with a student at the back of the room on a different activity while I was teaching. Tony's lack of engagement in the research was also an unexpected research event. Table 3.7 provides a brief summary of research events in the five case studies, which provide necessary background for the remainder of the methodology, and the chapters of findings that follow.

Table 3.7: Research summary of events

Case study	Teacher	Unexpected events	What happened?
1	Ava	No	Lessons taught according to lesson plans, with teacher and researcher team-teaching
2	Brian	Yes	Teacher asked me to teach class. Researcher attempted to teach but students would not listen. Case study ended prematurely.
3	Tony	Yes	Teacher asked the researcher to teach class and researcher taught two lessons
4	Dianne	Yes	Teacher did not teach lesson plans.
5	Natalie	No	Lesson plans taught according to lesson plans.

Answering RQ 3 involves understanding possible reasons why some of the teachers engaged in the research while other teachers did not teach the lessons or taught something else. It is possible that aspects of the methodology may have contributed to deviations from the plan. Three possibly hypotheses could explain these events:

1. A more thorough explanation for teachers may have been required regarding the research process and roles and responsibilities in the research.
2. Perhaps teachers felt obligated to participate and did not truly understand what was required.
3. Teachers are very busy and the research project may not have been a priority.

As a result, it may not have been reasonable to expect teachers to engage with new lessons without enough time to discuss with the researcher and prepare.

While accepting these possibilities, there are also possible counter-arguments.

Participant responsibilities were clearly stated in the Participant Information Sheet which was provided to participants and discussed on three occasions before the research commenced. Participant recruitment took over six months and during this time, teachers had several opportunities to withdraw from the research if they were not interested. The

timing of the intervention and the necessity of scheduling meetings to plan the new lessons were clearly outlined to all teachers at the beginning of the research. While finding time is certainly a challenge, I did have time for a collaboration meeting with Dianne and discussed the lesson plan line by line with her in the week before the intervention. At this time, Dianne gave no indication that she would not teach the lessons. And most importantly, the research process did work with two out of five teachers, showing that it was possible for the methodology to result in two new lessons taught by the regular class teacher, at least in part.

In order to generate theories for why unexpected events occurred, I returned to the data. The data resulted in a new line of enquiry, as I attempted to explain these events using an analytical tool: Legitimation Code Theory (Specialisation). As detailed in Chapter 7, this analysis revealed how orientations to knowledge and to knowers can shape teacher attitudes, practices and behaviours. The analytical tool for interpreting teacher interview data in light of Specialisation is described below in Section 3.5.7.

3.5.6 Data sources

Research in Stage 2 involved multiple sources of evidence, sources that are typical of case studies (Yin, 2014, p. 103). These sources included interviews, direct observation and participant observation and documents. Each data source is described here, followed by a description of analytical tools.

Semi-structured interviews

A semi-structured interview approach was adopted for the teacher interviews. The interview schedule was based on several open-ended questions which established topics relevant to the research questions and provided flexibility for follow-up questions depending on the teacher's answers and the direction of the discussion (Boglan &

Biklen, 1992). This approach ‘allows the researcher to respond to the situation at hand, to the emerging world view of the respondent and to new ideas on the topic’ (Merriam, 1998, p. 74). To maintain consistency, all teachers were asked the same basic questions, but the follow-up questions were different in each interview, depending on the participant’s responses and the particular student work used as a stimulus for discussion. In this way, unanticipated themes that emerged could be followed up with further questions. By using student work from the teacher’s class as a stimulus for some questions, the interview focus could move from the general to the particular, enabling both abstract discussion of requirements for successful writing in the subject in general, and more concrete and specific discussion of writing practices in the teacher’s class.

The semi-structured interview approach also allowed the researcher to probe teacher behaviour, such as when the teacher did not use the lesson plans, or when the teacher did not participate in the new lessons. Interview data was therefore a valuable source for analysing ‘explanatory logics’ (Johnston & Hayes, 2008, p. 115) which are justifications for teaching practices and other behaviours. Even though all five teachers agreed to commit time to preparing for new lessons which they would teach, only two of the five teachers actually followed through and ended up teaching the new lessons. This represents a conflict between espoused and actual practice that has been identified in past research (e.g. Fang, 1996; Olafson & Schraw, 2006). As interview responses by teacher may not reflect actual behaviour, interview data was later compared with other data sources including classroom observations and the researcher’s journal to provide multiple perspectives on espoused teacher attitudes and beliefs as well as teaching practices. Two semi-structured interviews were conducted with teachers, one at the beginning of the study and one at the end, with a collaboration meeting in the middle, as described below.

Interview 1

The purpose of Interview 1 was to answer RQ 2, in other words, to find out what teachers knew about the literacy practices of their subject area. Of particular interest was the use of any metalanguage related to language or literacy. This interview was also important for determining teacher views about content knowledge, as disciplinary literacies concern not only how to write but also what to write. The interview question schedule is provided here:

Questions: Interview 1

1. In Music/Business Studies, what do students need to do in their writing to attain a high mark in the HSC exam?
2. What do the weaker students tend to do or not do in their writing?
3. Looking at this student work (referring to student work that achieved a middle or low mark), why did you give the student these marks /comments?
4. How do you usually prepare your students for an assessment task in the form of an extended response (Business Studies)/aural exam (Music)?
5. How did you give your students feedback after the task?
6. Of all the topics we have discussed, what areas do you think we should focus on in the two new lessons?

Collaboration meeting

The purpose of the collaboration meeting was for the researcher and teacher to discuss the intervention lessons and to agree on topics and literacy skills to be covered in the lessons, teaching strategies to be used and resources required. Collaboration meetings were held with Ava, Natalie and Dianne. Due to difficulties in arranging a meeting with Tony and Brian, these meetings were attempted by phone.

Script and questions: Collaboration meeting

Based on our discussion, we came up with these ideas for the new lessons.
(Recap the main topics discussed).

I've typed up some ideas for lesson plans as we discussed based on the topic your class is up to. (Read through lesson plans with teacher).

1. What do you think of these lesson plans and resources?
2. What would you like to adapt or change?
3. (Music only: What do you think about the music excerpts? Would you like to make any changes?)
4. How shall we organise teaching of these lessons?

Lesson plans developed after these discussions can be found in Appendix C and are discussed in detail in Chapter 6.

Interview 2

The purpose of the final interview was to provide participants with an opportunity to evaluate the intervention. By this stage in the research process, several unanticipated events had occurred, with one teacher not using the lesson plans in the intervention and two teachers not engaging with the lesson plans at all. Questions 1 and 2 were developed to further explore teacher attitudes and orientations to teaching, beliefs about their subject and their evaluation of the research project.

Questions: Interview 2

1. I am becoming interested in what happens when teaching works really well. Can you tell me about any times when teaching Music or Business Studies went really well, when it seemed to flow? What seemed to be happening in those times?
2. Now I'd like to talk about what we did. Tell me how you think we worked together. What worked well and what didn't work so well? What were the things getting in the way of using the ideas in the lessons we planned?
3. Can you help me understand what was useful about the research and what was not useful?
4. What sorts of professional learning do you find helpful and useful?

In answering these questions, teachers elaborated on beliefs and attitudes in ways that may explain why they did not engage with the research. Conceptualisations of the 'ideal

lesson' (Question 1) helped the researcher to understand teacher orientations to 'knowledge' (of the content of their subject, of the rules for successful writing) and to 'knowers' (to their students and reflexively to themselves as knowers). Discussion of these findings in Chapter 7 will provide insights into the challenges of motivating change in secondary school literacy pedagogical practices.

Classroom observations

Classroom observations were conducted at two points in the research. The first observations were conducted at the beginning of Stage 2, to understand regular classroom practice and the role of explicit literacy instruction, if any, in preparing students for an assessment task. These observations were a kind of 'reconnaissance', to explore the area of research thoroughly (Grundy, 1995, p. 13). Observations were scheduled for a convenient time when students were preparing for their first assessment task, a written task modelled on HSC examination answers. Each teacher was asked what kind of recording device would be possible and all selected audio recording, as they preferred not to be videoed.

During the observations, the teachers and students did not seem to pay much attention to me in any of the classes, indicating minimal observer interference in the regular conduct of the lesson. I sat at the back of the classroom, made an audio recording of the lesson and took detailed field notes. Worksheets and any other materials used by students were also collected or recorded. Board work was photographed with the teacher's permission. One class (Brian's Business Studies class) moved to the library to do research for their assignment, so I went to the library and followed the teacher at a discreet distance, making notes on teacher and student activities during the lesson.

During the first observations, I took the role of an outsider, representing ‘observer-as-participant’ (Cohen et al., 2011, p. 457), where the role of the researcher is clear and overt, yet as unobtrusive as possible. However, in the intervention lessons, my involvement was as a dominant social interactant in the case study environment, as a teacher of part or all of the intervention lessons. In Tony’s and Brian’s classes, I taught the new lessons while the teachers observed. In Ava’s class, the teaching role was shared as we each taught segments of the lesson plans. In Natalie’s classroom, I did not actually teach the intervention lessons, but I acted as a support teacher in monitoring group work and answering student questions. A summary of researcher roles in the second observation can be found in Table 3.8:

Table 3.8: Researcher roles in the intervention

Subject	Teacher	What happened in the intervention?	Researcher role
Music	Natalie	Natalie taught two new lessons I answered students’ questions during activities	Observer of Natalie’s lessons Participant/teacher of parts of the lessons
	Dianne	Dianne taught two lessons	Observer of Dianne’s lessons
Business Studies	Tony	I taught two new lessons	Participant/teacher
	Brian	I taught the first part of a lesson	Participant/teacher
	Ava	Team teaching – Ava and I took turns to teach different components of the lesson plans	Observer of Ava’s teaching Participant/teacher of parts of the lessons

This variety of researcher roles enabled a range of perspectives on teaching disciplinary literacies. I was not only an objective observer but also a subjective participant, actively engaged in teaching students about literacy, leading to a richer understanding of the

complexities of secondary school teaching and of the opportunities and challenges of teaching disciplinary literacies.

Student writing

Samples of class work and student writing were collected throughout Stage 2 of the research. During the first observations, the following worksheets and student work were collected from three classrooms:

- Ava's Business Studies class: a cloze passage worksheet and comprehension questions
- Brian's Business Studies class: a terminology test worksheet
- Dianne's Music class: two answers to questions from past HSC papers.

Students did not complete any writing tasks in the other classrooms.

Completed assessment tasks from Term 1 were collected for analysis as a pre-test. In Music, each student participant completed three or four pieces of writing for analysis. In Business Studies, students completed extended responses for their first assessment task, which were collected.

During the intervention lessons, student work completed during class was collected or photographed, with the permission of the students. At the end of the project in Term 3, final assessment tasks were also collected. Table 3.9 provides a summary of the number of student writing samples, and the class from which they came:

Table 3.9: Number and type of student work samples collected in Stage 2

	Teacher	Number of students participating	Type and number of work samples			Total
			Assessment task 1	Class work	Assessment task 2	
Music	Natalie	5	15	12	20	47
	Dianne	2	6	4	8	18
Business Studies	Ava	7	6	7	6	19
	Tony	4	4	4	2	14
	Brian	2	2	2	2	6
		20				104

Research journal

The final data source is the research journal, an unedited diary created by the researcher and used to record events and reactions during the intervention. The diary was completed immediately after each interaction with teachers and each visit to a classroom. The researcher used this journal as a way of de-briefing after interactions in classrooms. There was also another purpose for the journal: to cross-check dates, times, the sequence of events. The main purpose of the journal was to triangulate and verify data from the lesson diaries and interview transcripts for case studies.

3.5.7 Analytical tools

A range of analytical tools were used to interpret and analyse data collected during Stage 2 of the research. This section presents the following analytical tools: lesson diaries, spreadsheets for coding of interview data, LCT (Specialisation), the research map and pedagogic rubrics.

Lesson diaries

Lesson diaries were developed as a tool to analyse classroom observations. Lesson diaries were based on Johnston and Hayes' day diaries (2008). They provide a recount of lesson activities from the student's perspective (e.g. listen to instruction, write notes) without any attempt to interpret or evaluate. This approach was chosen to try to provide an objective distance from the lessons, particularly the ones in which the researcher was a teacher/participant. The number of minutes spent on each activity was also recorded to show the balance of activities within the lesson. A sample lesson diary is provided in Figure 3.3:

Observation Tony Business Studies

Date Period 3

<i>Students:</i>	<i>Minutes</i>
Enter room and sit down.	1.5
Listen to teacher explain plan for lesson and assignment.	3.5
Ask teacher questions about assignment and listen to answers.	1.5
Receive a copy of a newspaper article to read.	1
Listen to teacher talk about article (and chat to other students).	2
Ask teacher questions about assignment and listen to answers.	1.5
Read handout. (Individual students take turns to read aloud.)	8
Listen to teacher read information written on board and explain it.	5
Some students watch teacher draw arrows between information. Most chat to other students.	
Ask more questions about assignment. Some listen to answers but most chat.	1.5
Copy information from board and receive handout about report writing format. Chat to friends, muck around, play on computers etc.	18
Read handout. (Individual students take turns to read aloud.)	2
Listen to teacher summarise the reading and talk through the rest of the handout.	2
Chat while teacher writes on board.	3.5
Listen to teacher explain and read what he wrote on board or chat to friends.	2
Bell rings. Leave room.	

Figure 3.3: Observation lesson diary sample

After the initial observations of each teacher's regular classroom practice, lesson diaries were evaluated to enable description of the teacher's preferred teaching style (Johnston & Hayes, 2008, p. 118). The sorts of activities students usually undertake in preparation for a writing assessment could then be evaluated in answer to RQ 2, concerning how teachers address the literacy demands of their subject. Lesson diaries were evaluated to determine answers to sub-questions related to RQ 2:

- What kinds of strategies do teachers use when preparing students for assessment tasks?
- What kinds of explicit instruction are students given before an assessment task?
- What kinds of activities do students undertake when preparing for assessment tasks?

Results for each case study were summarised under each heading and then observation transcripts (based on audio recordings) were analysed for finer grained detail about any literacy-related teaching and learning activities. These results were then compared with interview data in which teachers were asked questions about these same areas. In this way, teacher interview data and observation data were triangulated to confirm findings.

Interview analytical tools

The content of teacher interviews was analysed using steps proposed in Cohen, et al. (2011, pp. 564-569). Data were coded using analytic coding (Cohen et al., 2011, p. 561), a process of assigning labels to quanta of data related to themes of the research. As a preliminary step, data were arranged in an Excel spreadsheet, with the intention to deploy qualitative analysis software such as NVivo in a subsequent step. The Excel spreadsheet was sufficient to meet the analytical purposes of this study so no further software was used.

The first type of coding was aimed at determining the teachers' knowledge about language. Four coding categories were developed for interview data, based on the conceptualisation of knowledge about language in the Australian Curriculum for English (Australian Curriculum Assessment and Reporting Authority [ACARA], 2012a). In the Excel spreadsheet, four categories were placed as row headings: text, paragraph, sentence and word. These four categories would capture anything a teacher said related to writing for the HSC examination in terms of the answer overall (text), in terms of paragraphs or sections or stages of the text (paragraph), as well as any particular comments related to sentences or wordings. These four categories were chosen, as opposed to more technical linguistic categories, as the teachers in this study were not linguists and were unlikely to have a linguistic metalanguage.

To analyse the interviews, statements from the transcript related to literacy and language were copied and pasted into the spreadsheet under one of these four categories. An additional category was established for music notation, to enable analysis of comments related to the multimodal aspects of the music answers. The unit of analysis was the 'answer' to the interview question, so entries in the spreadsheet ranged from a few words to several clauses.

Next, all of the statements in each category, such as 'text', were divided according to descriptive labels, to determine what it was about the category that the teacher had noticed. An excerpt of the section related to 'text' is shown for Dianne's first interview. In answer to the first interview question, Dianne stated that students 'need to know how to structure an answer'. This is a reference to the text as a whole so it was included in the 'text' section, with the sub-heading of structure, as shown in Table 3.10:

Table 3.10: Excerpt from Excel spreadsheet for Dianne’s interview data: Text

Category	Sub-category	What do students need to do to do well?
Text	structure	They need to know how to structure an answer.
	relate to question	They have to know, first, to look at the question. Everything has to relate to the question... Focusing on the question and not diverting to other elements in the music.
	write within a set time frame	They need to be able to... know how to respond to a question in the time limits that they have, considering the amount of writing that they do.

Every comment by a teacher in each interview was placed somewhere in the spreadsheet. As these were semi-structured interviews, the discussion was wide-ranging and often veered onto topics of interest to the teacher. When teachers made comments about issues not related to the categories of text, paragraph, sentence or word, these comments were labelled using ‘open coding’ (Cohen et al., 2011, p. 561) . In this process, wordings from the teachers’ comments were used to determine the labelling categories. Teachers made many comments about their students and also many comments about their own teaching so ‘students’ and ‘teaching’ became analytical categories for each spreadsheet, as exemplified in Dianne’s spreadsheet from the first interview in Table 3.11:

Table 3.11: Excerpt from Excel spreadsheet for Dianne’s interview data: Students, Teaching

Category	Sub-category	What do students need to do to do well?
Students	afraid to elaborate	It’s like he’s afraid to elaborate. In class he goes on and on but he doesn’t do it in his writing.
	they know it	They know it. It’s just getting more out of them.
Teaching	I drill them from Year 9	If you start from Year 9 and you drill into them, by the time they get into Year 11 they’re confident enough. So I always drill into them, structure, exams and work things the way that it would be seen in senior subjects so they’re already used to how to structure their answer, terminology, time limits. They’re getting used to that from Year 9, from the word go.
	I play the CD to teach families of instruments	... families of instruments. Me playing examples on the CD and getting them to identify them.

This process was followed for all interview data and for all five case studies, resulting in five spreadsheets, each with common data categories (e.g. text, paragraph, sentence, word, students, teaching) and differentiated descriptive labels for comments within these categories.

In order to synthesise this data, spreadsheets for each teacher were printed and reviewed. From a vertical perspective, from top to bottom on the spreadsheet, each teacher’s case study spreadsheet was summarised using descriptive labels for teacher comments and a representative quote. Then a horizontal view was taken, enabling a summary of what all five teachers said about the category ‘text’, or about the category ‘paragraphs’, and so on. Summaries were assembled under each of the research questions, with similarities and differences noted. For example, Table 3.12 shows a summary of categories of all five teachers’ comments about text:

Table 3.12: Excerpt from teacher interview summary spreadsheet: comment categories about text

Dianne	Natalie	Ava	Tony	Brian
structure an answer	structure the answer	structure; introductions, conclusions	report structure	structure
relate to question	not English – make musical sense	answer the question	answer 2 topics in one question; answer both parts	answer the question
answering the question, exam technique	relate to question	some tell the history of the business	understand the stimulus	not an essay
write within a time limit	write more	some tell a story	report format, colours	planning with headings
		logical, sequenced	quality, logical, well put together	use diagrams, tables, dot points
		make an argument, discuss	depth of treatment	be concise
			follow the order of the question	give examples

In this table, categories common to more than one teacher were placed next to each other where possible. For instance, the top row concerns how to ‘structure’ an answer, a comment category raised by all five teachers. In this way, broad content themes could be compared and contrasted, using the spreadsheets and teacher summary tables for more detailed reference. These summaries are the basis of the findings in Chapter 6.

A further analytical tool was used for the interview data in light of the unexpected research events, where teachers did not teach the lesson plans as intended: a tool for analysing teacher interviews in terms of orientations to knowledge and knowers.

LCT(Specialisation): Language of description

An additional analytical tool was required to enable exploration of unanticipated research events and to answer RQ 3, which explores possible reasons for teacher disengagement in the intervention. Specialisation is an analytical tool drawn from a

sociological theory, Legitimation Code Theory, which provides a perspective on degrees of emphasis on knowledge, skills and procedures, compared with degrees of emphasis on dispositions of knowers (Maton, 2014). Firstly, interview transcripts were analysed in terms of the kinds of statements made by teachers about knowledge, thereby illustrating stronger or weaker orientation to epistemic relations. Secondly, the same transcripts were analysed to identify statements about students or themselves as teachers, thereby illustrating stronger or weaker orientations to social relations. In order to undertake this analysis, an external language of description was developed, identifying what constitutes stronger epistemic relations (ER+) and weaker epistemic relations (ER-) in relation to the data.

An external language of description (Bernstein, 2000, pp. 131-141) is a means of translating between concepts and data, so that the theory can 'talk to' empirical data external to itself. Specialisation involves a language of description for epistemic relations and for social relations (Maton, 2014). Table 3.13, below, presents a language of description for epistemic relations, shown by a code of ER+ and weaker epistemic relations shown by ER-. The middle column is an indicator of stronger or weaker ER, according to LCT theory, where stronger ER emphasises demonstration of knowledge and skills as the basis of achievement, whereas weaker ER downplays knowledge and skills. Example quotes from the data have been placed in the right hand column. These quotes illustrate stronger or weaker epistemic relations, in relation to the indicators. For example, when asked about her ideal lesson in Business Studies, Ava's answer was strongly oriented to knowledge, describing 'real business examples' and theories of business (the 'concept/principle'). Ava also mentioned how students interact with this knowledge by discussing the content covered in the lesson. These comments reveal stronger epistemic relations to knowledge. In contrast, Natalie's answer to the same

question about the ideal lesson in Music did not focus strongly on knowledge. Instead, her focus was on activities ('group work') and on interaction with students ('getting a lot of responses'), without reference to the content of the lesson or the knowledge being taught. In this way, Natalie's comments indicate weaker epistemic relations to knowledge.

Table 3.13: External language of description for ER+/- specialisation codes in interview data

Stronger or weaker epistemic relations	Indicator	Example quotes from teacher interviews about the ideal lesson
ER+	Emphasises demonstration by students of knowledge and skills as the basis of achievement	Speaking of ideal, the business lesson that runs ideally has got real business examples all through it – demonstrating each concept/principle. ... Then students discuss what they've seen/heard about a business and join it to the course concepts. (<i>Ava, Interview 2</i>)
ER-	Demonstration by students of knowledge and skills is less important as the basis of achievement	When you're getting a lot of responses. When you can see interactions... if they're doing group work you can see that there's not someone off to the side. (<i>Natalie, Interview 2</i>)

Each interview transcript was analysed and any comments related to knowledge highlighted and coded ER+ or ER- according to Table 3.13. By analysing the interview data from all five teachers for stronger and weaker epistemic relations in this way, it was possible to determine stronger and weaker coding orientations towards content knowledge and disciplinary literacies in their subject. These orientations were considered in reference to the second analysis, concerned with social relations.

This research involves two main types of 'knowers' or social actors: students and teachers. The researcher is also a social actor in this context but only one teacher,

Dianne, referred to the researcher directly in this way in the data. Consequently, Dianne’s data will be considered separately in her case study. In the analysis of interview data, if a teacher made a comment where attitudes, dispositions and personal qualities of students seemed to be the basis of achievement in the subject, then the statement was highlighted and coded SR+, indicating stronger social relations. If attitudes and personal qualities of students were downplayed, then the statement was coded SR-, which indicates weaker social relations. Table 3.14 shows the external language of description for social relations related to students. In the example quotes, Natalie’s comment revealed her view that music students have limited intelligence, ‘not always the sharpest tools in the shed’, which may prevent them from achieving. This demonstrates stronger social relations as the students’ personal capacities are determinants of success or lack of success. In contrast, Ava’s analysis of disappointing examination results did not refer to students’ personal qualities but instead involved factors external to the students, that is, the scheduling of the examination block. This comment reveals weaker social relations in terms of students.

Table 3.14: External language of description for SR+/- specialisation codes in relation to students in interview data

Stronger or weaker social relations	Indicator	Example quotes from teacher interviews about their students
SR+	Emphasises attitudes, dispositions, feelings and personal qualities of students as the basis of achievement	Especially with music students. They’re not always the sharpest tools in the shed. (<i>Natalie, Interview 1</i>)
SR-	Attitudes, dispositions, feelings and personal qualities of students are less important	I think they didn’t do as well in their marks for the extended task because they weren’t prepared enough, didn’t have the content down. A few students had their exams brought forward and so had limited time to prepare. (<i>Ava, Interview 2</i>)

The second ‘knower’ in the research is the teacher. Each of the teachers referred to themselves in the role of teacher during interviews, so these comments were also analysed for orientations to stronger and weaker social relations. In Table 3.15, Dianne’s comment that she ‘expects too much’ of her students exemplified stronger social relations. As a teacher, Dianne’s expectations and disposition, that is, her ‘tough’ attitude, are the basis of evaluation of student work. In contrast, Ava distanced herself from student achievement in a quote exemplifying weaker social relations. She gave students instructions to plan their answer. The basis of achievement was whether or not students followed this ‘instruction’, a criterion external to Ava and her personal qualities. When students did not comply, Ava was unaffected personally due to her weaker orientations to social relations as a teacher.

Table 3.15: External language of description for SR+/- specialisation codes in relation to teachers in interview data

Stronger or weaker social relations	Indicator	Example quotes from teacher interviews about themselves
SR+	Emphasises attitudes, dispositions, feelings and personal qualities of teachers	They think I’m too tough on them. I don’t know if I am. I don’t know if I expect too much. (<i>Dianne, Interview 1</i>)
SR-	Attitudes, dispositions, feelings and personal qualities of teachers are less important	I told them to spend 3-4 minutes planning. They didn’t all do that, but that was my instruction. (<i>Ava, Interview 1</i>)

All interview data was coded three ways, in terms of:

1. stronger and weaker epistemic relations
2. stronger and weaker social relations related to students
3. stronger and weaker social relations related to teachers.

Statements were coded ER+/- or SR+/- and patterns of coding were evaluated. For example, in this segment from the first interview with Ava in Table 3.16, most of her

comments embodied stronger epistemic relations (ER+) as she mostly described knowledge, skills and procedures. However, some of her statements at the end of this excerpt referred to the students in terms of gender as the basis of achievement, therefore embodying stronger social relations (SR+). Statements related to epistemic relations are highlighted while statements related to social relations are underlined, with coding shown in the column on the right.

Table 3.16: Specialisation coding of teacher interview data

<p>The other thing ... that the ones, who want to do well, they need to be able to cite examples of businesses and again not write it like a story. But actually um support or supported statements with how it actually works in reality. And it needs to be logical, sequenced, in a sequence.</p>	<p>ER+</p>
<p>And I have to say the other general observation I've made is that <u>girls tend to follow um instructions about writing extended responses more than boys do. Um, so if you tell them something, you see um, you see the girls try it. Like I tell them to plan, so you'll see a plan. The boys won't plan. They're more gung ho, generally.</u> That's what I've noticed.</p>	<p>SR+</p>

Coded transcripts were then reanalysed to determine specialisation codes of legitimation, as patterns of ER+/- and SR+/- . In order to relate the theory of specialisation codes of legitimation to the data in this research, the following summary in Table 3.17 shows how the theory relates to the data.

Table 3.17: Specialisation codes and external language of description

Specialisation Codes	Orientation to epistemic relations and social relations	Form taken by definitions of achievement
Knowledge	ER+ SR-	Emphasises demonstration by students of knowledge and skills and downplays the expression of attitudes and dispositions by students or teachers
Knowers	ER- SR+	Emphasises attitudes, dispositions, feelings and personal qualities of students or teachers
Elite	ER+ SR+	Emphasises both demonstration by students of knowledge and skills as well as attitudes, feelings and dispositions
Relativist	ER- SR-	Emphasises neither knowledge nor dispositions

As will be shown in the case studies in Chapter 7, there were no instances of elite or relativist codes and, instead, teachers' comments indicated either stronger epistemic relations or stronger social relations but not both, resulting in knowledge codes and knower codes.

The underlying theoretical assumptions for the intervention lesson plans and the researcher's own coding orientation were also examined. The lesson plans developed for the intervention were based on the Teaching and Learning Cycle (Rothery, 1994). This pedagogy is designed to 'enable any student to succeed' (Rose & Martin, 2012, p. 1) regardless of their socio-economic or educational background. Analysing the Teaching and Learning Cycle in terms of Specialisation enabled new insights into the researcher's assumptions. In this approach, the dispositions of knowers are downplayed (weaker social relations). The intervention lesson plans disregarded student dispositions or ability in favour of carefully planned teaching using a scaffolding approach, where

‘teachers take an explicit approach to the teaching of writing while at the same time supporting student autonomy and ownership of the writing process’ (Gibbons, 2009, pp. 106-107). Consequently, the focus was on the teacher as an expert in explicitly building skills and knowledge for all learners. In this way, the lesson plans are based on stronger epistemic relations to knowledge. Stronger epistemic relations (ER+) and weaker social relations (SR-) position the lesson plans as a knowledge code. The knowledge code orientation of the intervention was then compared with the knowledge or knower code of teachers in the case studies, to determine any correlation between coding orientations and teacher resistance to, or engagement with, the research intervention. As a result, patterns of ‘code matches’ and ‘code clashes’ could be identified and these are described in Chapter 7.

SFL and LCT (Specialisation) provide complementary perspectives on the intervention. SFL provides a semiotic perspective on knowledge while LCT provides a complementary sociological perspective on knowledge as well as an additional focus on knowers, that is, on teachers and their attitudes and beliefs. These complementary perspectives will be synthesised at the conclusion of this chapter.

Research map and pedagogic rubric

The next tool to be described is the research map. The research map summarises the key linguistic features of successful examination answers for the extended response in Business Studies and the aural answer in Music. This research map underwent a transformation, as will be explained in Chapter 6, from a theoretical tool using primarily linguistic metalanguage, to a pedagogic tool, where linguistic categories were maintained but the wordings were more ‘user friendly’. The research map and pedagogic rubric were used to evaluate student work, and also as stimulus for

discussion with teachers. The pedagogic rubric was also discussed with students during the intervention lessons.

The pedagogic rubrics are included below and are described in detail in Chapter 6. To evaluate student work, the researcher read each sample of student writing. The writing was evaluated against each criterion in the rubric, and an assessment was made about how consistently the criterion was met in the writing, ranging from ‘consistently’ to ‘not at all’. The full rubrics are shown in Chapter 6 and only the criteria and indicators are included in Figure 3.4 for Business Studies and Figure 3.5 for Music.

Criteria	Indicators
Structure	Answers each part of the question with equal weight. Uses headings – syllabus points
Case studies	Case studies support statements. Maximum one paragraph of background information about case study
Reproduce syllabus points	Syllabus points are included exactly as worded in syllabus number of syllabus points
SPIN FX Paragraphs These elements appear in each paragraph:	<p>SP Syllabus point</p> <p>IN In other words ...which means that</p> <p>F Further effect on business As a result the business was able to: grow, increase profits reduce costs</p> <p>X Example – go through SPIN F again in relation to a case study</p>
Business terminology	Business terminology is used (not everyday words)

Figure 3.4: Business Studies extended response pedagogic rubric

Criteria	Indicators
Structure	Structures the text using headings (names of concepts, or structure/sections)
Builds a taxonomy of all the music aural concepts or the ones asked for in the question	Pitch Duration Texture Tone Colour Dynamics & Expressive Techniques Structure
Making a point	Time Makes specific references to musical time Finding Describes musical events related to taxonomies of concepts and performing media Principle Links concepts to the principles of composition or the ones asked for in the question (variety, contrast, interest, unity, etc.)
Musical terminology	Names musical instruments accurately and specifically Uses technical musical words from the taxonomies of the concepts
Musical diagrams	Diagrams/notation (if included) have a title and labels for parts and musical time.

Figure 3.5: Music aural answer pedagogic rubric

3.6 Validity and reliability

Validity and reliability are critical requirements of effective research, as is the minimisation of researcher bias. Validity refers to the extent to which ‘a particular instrument in fact measures what it purports to measure’ (Cohen et al., 2011, p. 179). In qualitative research, validity can be addressed through truthfulness to the context, or natural setting, the rich description of data, respondent validation, the extent of

triangulation and the objectivity of the researcher (Boglan & Biklen, 1992). There are two types of validity: internal and external. Internal validity is the ability to ‘demonstrate that the explanation of a particular event, issue or set of data which a piece of research provides can actually be sustained by the data’ (Cohen et al., 2011, p. 183). Internal validity also involves issues of fairness and authenticity (LeCompte & Preissle, 1993). Fairness involves representation of multiple realities in a context and this has been addressed by interpreting multiple data sources and triangulation of data from observations and interviews. Data sources have been chosen to represent the context faithfully, by using authentic student texts and by working with real teachers and students. In this way, the study aims to present an authentic perspective on disciplinary literacies in senior secondary schooling.

External validity is ‘the degree to which results can be generalised’ (Cohen et al., 2011, p. 186). This requirement has been addressed in the current research through strategies to increase comparability and transferability (Lincoln & Guba, 1985). To ensure comparability, the research map and evaluation rubric for student writing were tested across a large number of texts in the Standards Packages and also discussed in detail with five teachers. In addition, the texts chosen for close analysis as models for successful answers were from an external, moderated source, the Board of Studies Standards Packages. By using this source, transferability of findings was strengthened, as independent and official sources judge these texts to be exemplary, mitigating the possibility of inaccurate or subjective researcher judgement of what makes a successful answer.

Researcher bias is a challenge to all research, particularly when the researcher takes a participant role as I did in the intervention. To mitigate bias, analysis of classroom

observations occurred several months after intervention lessons were taught, enabling time to pass and so to distance the researcher from the intensity of the teaching experience. The research journal was also a useful tool for enabling a ‘brain dump’ of immediate emotions and reactions, with a view to stepping back for a more objective perspective after time had passed. To minimise bias in interviews, the same questions were asked of all five teachers, to enable comparability of answers. ‘Leading’ questions were avoided, thereby minimising assumptions about the research issues. In addition, common coding categories were used for evaluation of all teacher interviews to provide standardisation of analysis.

Triangulation of data from multiple sources is recommended to support research validity and reliability (Cohen et al., 2011; Denzin & Lincoln, 2000; Merriam, 1998). As shown in the triangulation table below, multiple sources of data have been used to answer each research question. The Triangulation Matrix in Table 3.18 (Ary, Jacobs & Sorensen, 2006, p. 526) shows the connection between research questions and multiple data sources in both stages of this research project.

Table 3.18: Triangulation matrix for research questions

Research question	Data source 1	Data source 2	Data source 3	Data source 4	Data source 5	Data source 6	Data source 7
1. What are the disciplinary literacy demands of the Business Studies and Music HSC examination?	Official documents from Board of Studies	High achieving work samples from Standards Packages	Low achieving work samples from Standards Packages	Research map	Teacher interview 1		
2. How do teachers attempt to address these literacy demands?	Classroom observations	Student work from 5 case study classrooms	Teacher interview 1	Research journal and field notes	Teacher / researcher collaboration meeting	Lesson plans and teaching resources for intervention	Teacher interview 2
3. Why do some teachers embrace a literacy intervention while others resist explicit teaching of literacy?	Teacher interviews 1 and 2	Classroom observations	Research journal and field notes				

As shown in this table, multiple sources of data are analysed to answer each of the three research questions, so that any one source of data does not stand as the sole source of a finding. Through use of multiple data sources, rich case study data has been faithfully represented and analysed.

3.7 Inter-relation of research questions and theoretical frameworks

The methodology selected for this research offers multiple insights into the challenges of teaching disciplinary literacies in the complex secondary schooling environment. RQ 1 concerns the theory of literacy, by using SFL and SF-MDA theory for discourse analysis, to identify and explain the disciplinary literacies of HSC writing in Business Studies and Music. Moving from theory to practice, RQ 2 probes the understandings of teachers about these disciplinary literacy demands and examines how literacies are taught in regular classroom practice. To explain why some teachers did not engage with the research intervention, analytical perspectives provided by LCT (Specialisation) explore teacher attitudes, beliefs and dispositions in answer to RQ 3. These research questions are probed through analysis of multiple data as outlined in Table 3.18. The diagram in Figure 3.6 represents the relationship between research questions and theoretical frameworks used to answer these questions.

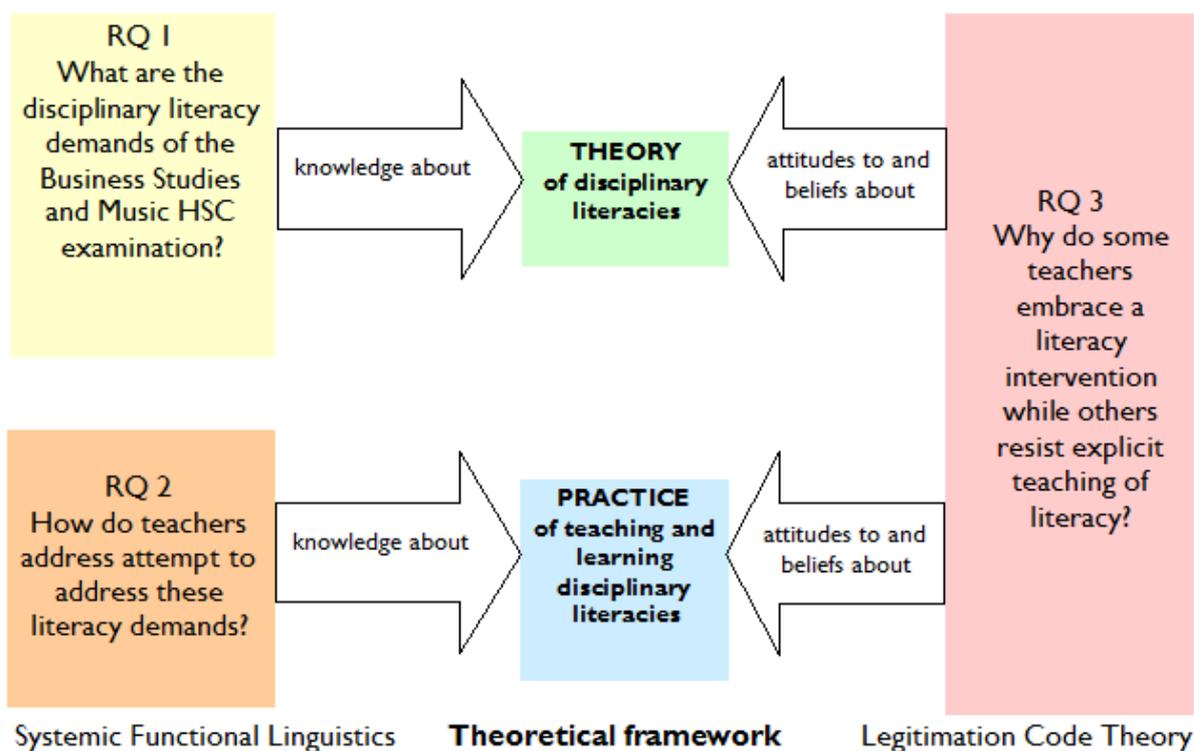


Figure 3.6: Inter-relation of research questions and theoretical frameworks

The dual semiotic and sociological dimensions of this study, represented in Figure 3.6, enable a perspective on the knowledge of disciplinary literacies as well as the attitudes and beliefs about disciplinary literacies that are the conditions for effective teaching of these literacies. The inclusion of ‘knowers’ in the account of the research is a distinctive feature of the methodology which aims to provide a fuller account of effective literacy pedagogy in secondary schooling.

3.8 Conclusion

In summary, the design of this study addresses the theory and practice of disciplinary literacies. This research is informed by principled theoretical understandings of knowledge about language and semiotics and also acknowledges the realities of secondary school classroom situations. The methodology takes both a theoretical and practical approach to disciplinary literacies in Business Studies and Music, presenting

one way (of many possibly ways) of applying social semiotic theory to an intervention in two subjects with five teachers.

The potential ‘analytical generalisability’ of this research is not in terms of actual results but in the way theory is applied to practice. In other words, if the theories presented in this research are applied to other case studies in other educational settings, reactions from teachers and students would be variable, manifesting in a range of different attitudes and behaviours from teachers and in different texts from students. Nonetheless, the insights from applying SFL and SF-MDA theory to teaching practice will add to what we know about the opportunities and challenges of disciplinary literacies in secondary subjects. Sociological perspectives from LCT (Specialisation) will complement these semiotic theories, to enable analysis of the social dimensions of teaching and learning.

These methodologies combine to provide findings that offer fresh understandings of three dimensions of disciplinary literacies in secondary schooling: the nature of disciplinary knowledge in Business Studies and Music, the characteristics of successful writing for the HSC examination and the importance of teacher attitudes, beliefs and epistemologies in enabling this knowledge to be taught effectively. All three of these dimensions will be shown to influence the success of a literacy intervention and the level of ‘take-up’ of new knowledge and skills by teachers and students. Insights generated from these interlocking understandings will inform the development of a proposed model of the teacher knowledge and knower base. This model, presented in Chapter 8, synthesises research findings to outline the conditions for successful literacy pedagogy in secondary schools.

CHAPTER 4:

Disciplinary literacies in Business Studies and Music

4.1 Introduction

The objective of this chapter is to address the first research question:

What are the disciplinary literacy demands of senior secondary Music and Business Studies?

Analysis in this chapter focuses on successful assessment tasks from the Higher School Certificate. These artefacts of high-stakes testing show what is valued by markers because these answers have ‘what it takes’ to achieve the highest marks possible.

Distinctive patterns of language will be identified in each subject, including preferred genres, the building of subject-specific meanings through abstraction and technicality, and principles of reasoning when answering the examination question. These ‘codes for success’ (Freebody et al., 2008, p. 196) will be shown to be subject-specific and rarely described explicitly in official documentation from curriculum authorities.

Disciplinary literacy also concerns semiotic resources other than language. While the current chapter focuses on language, Chapter 5 will explore how students use the semiotic resource of images in Music to convey musical meaning. A range of traditional and non-traditional notation, diagrams, tables and charts will be evaluated, showing how meaning is construed through image and language, independently and together. Chapters 4 and 5 aim to utilise the analytical power of knowledge about language and semiotics to uncover the hidden curriculum for Business Studies and Music, showing the particular qualities of each discipline and illuminating ways of ‘knowing, doing, believing, and communicating that are privileged to those areas’ (Moje, 2008, p. 99).

The first part of this chapter explores official disciplinary knowledge as represented in the syllabus dot points, to show how some aspects of the curriculum are explicit while others are hidden or implicit. Next, the texts selected for close study will be presented, along with six questions used to guide the analysis of these texts. The remainder of the chapter presents the findings of the analysis, which draws on the resources of Systemic Functional Linguistics (SFL). These findings will be synthesised in a research map, which includes the most salient semiotic features of successful answers. Analysis will also include a description of disciplinary ways of making a point in an HSC examination answer. The final section of this chapter will present implications of this analysis for understanding of disciplinary knowledge and disciplinary literacies in Business Studies and Music.

4.2 Official disciplinary knowledge in the syllabus

The analysis of official documents starts with an exploration of syllabus aims, followed by how disciplinary knowledge is represented in syllabus dot points. Next, official documents will be investigated for any explicit support for HSC writing, culminating in a summary of explicit and implicit features of syllabus documents.

4.2.1 Syllabus aims

In this section as in the rest of this chapter, discussion of syllabus aims will begin with Business Studies followed by Music.

BUSINESS STUDIES

The aim of the Business Studies course is to prepare students to interact with businesses in a knowledgeable way, either as consumers or employees. The purpose of Business Studies is for students 'to become informed and responsible citizens by developing knowledge, understanding, skills and values relevant to their interactions with business

and participation in a dynamic business environment’ (Board of Studies NSW, 2009b, p. 9). This kind of ‘real world’ application distinguishes Business Studies from its more academic sister course, Economics. The purpose of Economics is to ‘develop students’ knowledge, understanding, skills, values and attitudes for effective economic thinking that contributes to socially responsible, competent economic decision-making in a changing economy’ (Board of Studies NSW, 2009c, p. 9). These contrasting purpose statements show how Economics is aimed at building cognitive skills and making decisions, whereas Business Studies is aimed at building more generic skills for interactions with businesses in everyday activities. Also, Business Studies is focused on ‘citizens’ while Economics is focused on ‘decision-makers’, hinting at the more demanding requirements of the Economics syllabus.

MUSIC

Whereas the Business Studies syllabus aims to develop socially engaged and responsible ‘citizens’, the aims of the Music syllabus are far more personal and subjective. Music students are involved in a more internal and individual experience that will manifest in a student’s musical sensitivity and a ‘capacity’ and ‘desire’ to engage with music in life after school. The aim of Music 1 in the senior years is:

... to provide students with the opportunity to acquire knowledge, skills and experiences and to emerge as musically sensitive and capable individuals with the capacity and desire for music to play a significant and continually developing role in their lives (Board of Studies NSW, 2009d, p. 9).

As there is no course prerequisite for Music 1, students ‘acquire’ knowledge in this course whereas they ‘build on’ existing knowledge in the more demanding course, Music 2 (Board of Studies NSW, 2009e, p. 9).

Further exploration of orientations to knowledge and knowers in teacher attitudes will be carried out in Chapter 7. For now, we explore the knowledge requirements as explicitly stated in each syllabus to reveal how each subject represents itself as a distinct area of study.

4.2.2 Knowledge in the dot points

BUSINESS STUDIES

Knowledge and understanding objectives frame the entire Business Studies syllabus. Business Studies has four objectives that include describing business and types of businesses, outlining what businesses do, and looking within a business to examine departments, operational roles and responsibilities of staff. In a final objective, students are required to know about internal and external ‘factors’ that act upon a business and affect management decision-making and business success.

Through Business Studies, students will develop knowledge and understanding about:

- the nature, role and structure of business
- the functions, processes and operations of business
- the nature, role responsibilities and effectiveness of management
- the impact of internal and external factors on business

(Board of Studies NSW, 2009b, p. 9)

The Business Studies objectives identify the ultimate outcome of business activities as ‘business success’ (syllabus outcome H.2). ‘Success’ is not explained further in any other dot points so any connection between business success and the profitability that underpins success is not made directly. In fact, a search of the syllabus for the term ‘profit’ elicits several matches but these are found in the financial management topics related to how to calculate profits. The issue of profitability in the disciplinary discourse of Business Studies will be explored further in Section 4.5 where successful examination answers are analysed in detail.

In addition to objectives, the syllabus provides brief outlines of topics as a series of headings, points and sub-points. Five topics are listed in the syllabus for Year 11 and a further five topics for Year 12. One example from Year 12, Global Business, will be explained to show how the syllabus is organised. Global Business, the final topic for Year 12, has five subtopics:

- globalisation
- global business strategy
- specific influences on global businesses
- managing global business
- management responsibility in a global environment

(Board of Studies NSW, 2009b, pp. 34-36)

Each of these sub-topics contains several points. For example, under the second subtopic, global business strategy, there are two further points:

- methods of international expansion
- reasons for expansion

Each of these points has sub-points. For example, there are eight sub-points that cover reasons for expansion:

reasons for expansion

- increase sales/find new markets
- acquire resources and have access to technology
- diversification
- minimise competitive risk
- economies of scale
- cushioning economic cycle
- regulatory differences
- tax minimisation

(Board of Studies NSW, 2009b, p. 35)

Representation of knowledge as dot points in the syllabus creates several problems. Firstly, it is not clear how the ideas in the dot points are related. In the example above, some dot points are verbs (e.g. increase sales/find new markets) and some are nouns (e.g. economies of scale). Secondly, cause and effect language is obscured between the heading (e.g. reasons for expansion) and each dot point. Nouns such as 'reason' are logical metaphors that imply cause and effect relationships (J. R. Martin, 1992, p. 408) and are commonly used in explanations to show 'cause in the clause' (Achugar & Schleppegrell, 2005). Through logical metaphor, a causal relationship is transformed into a Thing. For example, a congruent realisation of the kind used in speaking may use a conjunction such as 'because' or 'so'. The heading and first dot points could include the conjunctions in bold in these clauses:

Businesses expand **so** they can increase sales and find new markets

Businesses expand **because** they want to increase sales and find new markets

In logical metaphor, however, conjunctive relations are implied instead of overtly stated. Instead, a Thing, 'reason', implies the cause and effect relationship. The purpose of logical metaphors in writing is to 'distil' information in a written explanation, as they enable 'precise nominal formulations of potentially complex causes... and effects' (J. R. Martin, 2013, p. 31). However, the syllabus dot points are not a complete written text, but simply lists. Conjunctions of cause and effect are not explicit in the syllabus dot points which means that the link between the dot points and 'reasons' is not as clear as it could be. In fact, semiotic analysis of dot points (or bullet points) has shown that 'overusing bullet lists ... entails the risk of failing to convey a hierarchy of information and obscuring the logical connections within it' (Djonov & van Leeuwen, 2014, p. 234). As the core of disciplinary discourse in Business Studies will be shown to involve logical connections, the use of dot points obscures one of the most important aspects of Business Studies disciplinary knowledge that students need to learn.

Any principled organisation of the Business Studies syllabus as topics, subtopics and sub-points is difficult to determine. The sub-points of the reasons for expansion represent a list, which could potentially contain more items. In this list, it is not known if they are arranged in order of importance, that is, if ‘increase sales/find new markets’ is more important than the final point, ‘tax minimisation’. In the list of topics for Year 12, the relationship between ‘globalisation’ and ‘global business strategy’ is not clear. A causal relationship is perhaps suggested in that due to the rise of globalisation, businesses need to have a global business strategy. However, these causal relationships are not made explicit. This means that dot points make it more difficult for teachers and students to understand the organising principles of disciplinary knowledge in this subject.

MUSIC

The Music syllabus is far less detailed than the Business Studies syllabus. The Music syllabus comprises four strands for study: performance, composition, musicology (study of composers, periods and style) and aural (listening to and analysing music) as well as a list of options for styles of music (e.g. Australian music, Classical music, music of another culture). The first Music syllabus objective highlights the concepts of music, which are the focus of this research. Music objectives also refer to ‘skills’ to evaluate music critically as well as understanding technology and developing values about music.

The objectives of Music 1 Stage 6 are:

- to develop knowledge and skills about the concepts of music and of music as an art form through performance, composition, musicology and aural activities in a variety of cultural and historical contexts
- to develop the skills to evaluate music critically
- to develop an understanding of the impact of technology on music

- to develop personal values about music
(Board of Studies NSW, 2009d, p. 9)

The concepts of music are described briefly, but nowhere else in the syllabus are ‘skills’ referred to in relation to concepts of music, nor does the syllabus explain what it means to have a critical approach to music. The final objective is for students to create ‘personal values’ about music, although it is not clear what these values should be, nor how values are logically connected to the other syllabus objectives.

The syllabus categorises concepts of music as ‘duration, pitch, dynamics and expressive techniques, tone colour, texture, structure’ (Board of Studies NSW, 2009d, p. 10), providing a brief definition of each concept in a short list of dot points. For example, seven dot points are provided for the concept of pitch (the high or low quality of a sound). The dot points have been numbered here for analysis:

- definite and indefinite pitch (1)
 - pitch direction and contour (2)
 - pitch patterns (3)
 - pitch range and register (4)
 - harmony (5)
 - methods of notating pitch, both traditional and graphic (6)
 - various scales, modes and other ways of organising pitch (7)
- (Board of Studies NSW, 2009d, p. 17)

In these dot points, organisation of knowledge about pitch is not entirely clear.

Relations between ‘definite and indefinite pitch’ (point 1) and other points are not obvious. Points 2-4 relate to melody although this term is not mentioned. The fifth point, ‘harmony’, relates to ‘scales, modes’ in the final point, as both involve a sense of the tonal centre of a piece. Within each dot point, the level of technicality and detail required for examination writing is not specified. For example, ‘methods of notating

pitch' are raised in point 7 but no detail is provided on what kinds of notations are required or recommended. Little is known about how to explain relations between the concept of pitch and other concepts, or with principles of composition. Instead, the dot points are presented as self-evident 'morsels of fact that can stand alone and mean what they mean without needing to be included into a larger web of meaning, a higher level of understanding' (van Leeuwen, 2006, p. 11). Also, the dot points are at different levels of abstraction – from general descriptors of pitch as a whole (indefinite/definite in point 1) to more concrete 'scales' and 'modes' (in point 7), in contrast with effective dot points which are intended to be 'the same or similar level of abstraction' (Djonov & van Leeuwen, 2014, p. 235). These hidden relations between points potentially create problems for teachers in determining exactly what each concept of music involves and the level of technicality required, which in turn poses challenges for effectively and explicitly teaching the concepts of music.

In addition to these problems, there are also some areas of overlap between the dot points of different concepts. For instance, performing media are included in a dot point under the concept of texture (i.e. 'roles of instruments and voices') and also in a dot point under the concept of tone colour (i.e. 'sound sources'). As will be shown, however, every successful answer refers to performing media, no matter what concept is being described. Furthermore, the Music syllabus does not contain a heuristic of how all the syllabus elements or concepts of music are related to each other. It is not clear how the concepts of music relate to performing media or 'unity, contrast and style etc.' and there are several overlapping areas within the dot points. A list such as this, therefore, is not sufficient for cumulative knowledge building, as will be explored further in later sections of this chapter.

Since knowledge in each subject area is represented in the syllabus in such a disconnected way, the next step is to find out if the syllabus or any other official documents provide guidance for teachers and students in preparing for the written tasks in the HSC examination.

4.2.3 Support for writing in the HSC examinations

In addition to the syllabus, the Board of Studies publishes official assessment support documents, markers' comments and sample answers. Assessment documents outline a program of assessment and the relative weighting of each task (e.g. examination worth 20%), but the support documents do not contain specific guidelines for how to write successful responses to these tasks. Markers' comments, released each year after the HSC examinations, provide summaries of evaluations of student answers for that year. Like the syllabus, these comments are presented in the form of dot points. Sample answers are similarly brief. For example, the extended response question in the 2012 HSC examination was 'Why are ethical behaviour and government regulation important in marketing?' The sample answer was arranged in dot points, an excerpt of which follows:

Answers could include:

- Government regulation
- consumer laws
- deceptive and misleading advertising
- price discrimination
- implied conditions
- warranties

(Board of Studies NSW, 2012b, p. 7)

The sample answer refers to the dot points of the syllabus but it does not foreground the points as 'reasons' to explain 'why' government regulation, for example, is important in marketing.

In Business Studies, the Board of Studies does publish marking criteria for written assessment tasks. These take the form of generalised standards, for example, the criteria that require students to ‘demonstrate knowledge and understanding relevant to the question’ and ‘apply a relevant case study’ (Board of Studies NSW, 2011). It is not clear, however, exactly how the case study is to be applied and there is no guidance about how to relate or connect a case study to syllabus content. As for the structure of the answer as a whole, only a vague outcome is provided, to present a ‘sustained, logical and cohesive response’. In 2002, markers’ comments stated that ‘excellent responses were well structured’ but without specifying what the structure might be. There was one specific comment that students ‘who organised their responses by the use of clear headings tended to present a more logical, well structured answer than those using a purely prose format’ (Board of Studies NSW, 2003a, p. 10).

In Music, there are no marking criteria or outcomes listed on the examination paper. Marking guidelines, however, do provide some hints about what is required. For example, in the 2002 HSC examination, marking criteria for the highest mark band include the need for ‘careful listening and musical awareness’ although how this is to be demonstrated is not clear. In addition, concepts of music should be ‘described in detail ... using suitable examples to support observations’ (Board of Studies NSW, 2003a) although the degree or level of detail is not specified, nor is the type of ‘example’ required. Similarly to Business Studies, sample answers in Music comprise dot points listing features that could have been included in an answer. These tend to prescribe a higher level of technicality and more specificity than the syllabus. For example, markers’ comments from the 2002 HSC paper included many technical musical terms related to pitch including ‘balanced phrases’, ‘high register’, ‘ornamented melody’ and

‘wider range, played pizzicato’ (Board of Studies NSW, 2003a, p. 8). These lists are only relevant to one particular examination question and one particular excerpt of music, so they are of limited value to teachers in preparing students for the next year’s examination. However, by collating and analysing sample answers from the markers, it has been possible to develop a series of system networks and taxonomies to map the concepts of music that will apply to all answers, as will be described in Section 4.7.

Another hidden area of the Music syllabus involves the use of different forms of musical notation in examination answers. The syllabus mentions that ‘methods of notating pitch, both traditional and graphic’ (Board of Studies NSW, 2009d, p. 17) are part of the content knowledge of the subject but there are no examples provided. Notation is not mentioned at all in assessment support documents for the HSC but markers’ comments from examiners often include references to graphic notation as a characteristic of ‘better responses’. As a consequence, use of images is part of the hidden curriculum of HSC Music. This component of successful responses is significant enough to warrant a separate chapter of analysis so this exploration will be continued in Chapter 5.

4.2.4 Explicit and implicit aspects of official documents

Analysis of syllabus documentation for Business Studies and Music has identified that there are several hidden areas of the curriculum in each case. The syllabus documents for Business Studies and Music do specify some areas of knowledge, listing syllabus topics, content to be studied and definitions of some key terms. However, relations between content areas are not always clear and there is some overlap. In relation to writing for the HSC examination, marking criteria are quite generalised and little guidance is provided for how to compose a successful answer. Also, ways of

incorporating case studies in Business Studies or 'examples' in Music are not clear.

Explicit and implicit or unknown features of the official Board of Studies documents are shown in Table 4.1 for Business Studies and Table 4.2 for Music.

Table 4.1: Explicit and implicit features of the Business Studies syllabus

Data source	Explicit features	Implicit or unknown features
Syllabus and assessment documents	Four knowledge outcomes which cover what businesses are, what they do, how they are structured and influences on business	-
	Syllabus topics in syllabus provide lists of dot points; text book provides elaboration of these	Overall heuristic structure of the syllabus is not provided; and amount of information required in answers is not known
	Ultimate outcome of business activities is 'success' or 'cessation'	No mention of cash flow, profit and loss
Markers' comments and marking criteria	Specification of which syllabus points should be included in the answer	No guidelines for how to write about the syllabus points
	Use of case studies is mandated	No guidelines for how to integrate case studies with syllabus points or how to use case studies to exemplify theories
	Importance of answering the exam question directly: 'demonstrate knowledge and understanding relevant to the question'	-
	Importance of using business terminology and concepts	-
	Writing should be a 'sustained, logical and cohesive' response	No models or examples of high quality writing Lack of clarity about resources that create cohesion or logic No specification of the genre required for the extended response

Table 4.2: Explicit and implicit features of the Music syllabus

Data source	Explicit	Implicit or unknown
Syllabus and curriculum documents	Four strands of the syllabus outlined: performance, composition, musicology, aural	-
	Aims: Students need to develop 'skills to evaluate music critically'	The nature of these skills is not specified and the type of critical evaluation is not explicit
	Six concepts of music: pitch, duration, tone colour, dynamics and expressive techniques, texture, structure – described with dot points under each heading	All concepts are presented as equally important; relations between concepts are not specified; several areas of overlap and duplication in dot points are not explained; it is not clear where performing media sit within the concepts
	Unity, contrast and style	It is not clear what these are; there is no category or name for 'unity, contrast and style' nor how they relate to concepts of music
Aural examination marking criteria and markers' comments	Criteria: <ul style="list-style-type: none"> • Describes a concept in detail; detailed descriptions of musical events • Support response with examples 	It is unclear how much 'detail' should be provided Examples are not defined No models of the response are provided nor instructions for how to compose a response
	Traditional and graphic notation should be used	No specification of what kind or type of notation should be used

The hidden requirements of HSC writing identified in Tables 4.1 and 4.2 will be explored through discourse analysis of three successful HSC answers. The next section outlines how discourse analysis was undertaken of one Business Studies answer and two Music answers.

4.3 Texts and guiding questions for discourse analysis

Three successful student answers were selected for close study, according to the methodology described in Section 3.4. These texts are presented below, followed by guiding questions that helped to organise the discourse analysis.

4.3.1 Texts selected for close study

BUSINESS STUDIES

In Business Studies, a two-part question was chosen for analysis. The question is worded as follows:

Outline the reasons why businesses expand globally, and critically analyse the political, social/cultural and management issues that arise with a global workforce.

The full text of the selected text, an exemplar answer that achieved the highest grade, follows here in Table 4.3. This particular answer will be referred to as Business Studies Text 1, as other Business Studies answers will also be analysed later in this chapter.

Table 4.3: Business Studies Text 1

Exemplar answer 2002 HSC Question 29 (Board of Studies NSW, 2003b, pp. 65-66)

Question: Outline the reasons why businesses expand globally, and critically analyse the political, social/cultural and management issues that arise with a global workforce.

Transnational Corporations (TNC's) are becoming increasingly found all over the world. TNC's such as HSBC and Fosters Group Limited are expanding globally in order to achieve company goals and ultimately maximise profits. These TNCs are significantly influenced by political, social/cultural management issues that arise with a global workforce.

Reasons for Global Expansion

- Businesses are increasingly being confined to a saturated market that limits potential growth and the maximisation of profit. Thus business will expand in an attempt to increase the sales and to find new markets. For example the TWC, Fosters Group Limited, was situated in the saturated Australian market where it occupied over 40% of the market share and over 90% in Victoria. In order for this business to substantially grow it needed to move beyond the national boundaries and trade in the international market place to maximise sales.
- Global businesses also expand because of the desire to achieve economies of scale. By increasing production the business is able to reduce costs and thus increase profit which is the ultimate goal. Through economies of scale the cost of producing products is reduced which therefore enables the company to maximise revenue.
- Businesses expand globally to acquire access to technology, such as HSBC. HSBC through expanding internationally was able to acquire the use of internet and therefore become the first international online banking service. Technology makes the transferring of funds and information quicker and easier and therefore reduces costs and increasing profits.
- Some businesses expand globally to avoid tax and to achieve tax minimisation. This is achieved in countries such as the Cook Islands where a tax haven exists which means that there is no tax placed on either domestic companies or global companies. There may also exist a tax shelter or privilege but the main reason why businesses expand globally is to reduce the taxes that they pay in their domestic country.
- Diversification is another reason why businesses expand globally. Fosters for example has diversified into property through the Wentworth Group and as such has changed its name from Fosters Brewers Limited to Fosters Group Limited. HSBC has also diversified through the Merrill Lynch HSBC alliance and now trades through the internet.
- Cushioning economic cycles is also a reason to expand globally as this way the global business can rely on the stability of many countries' economic cycles rather than just one.

As businesses expand globally they encounter many political, socio/cultural and management issues that need to be addressed in order to operate effectively and profitably. These issues are predominantly evident in relation to the global workforce that exists when businesses expand globally and the function of employment relations.

There are significant political issues that arise when businesses expand globally in relation to the global workforce. The host country may have different standards of labour that exist to protect their workers. For example, when HSBC expanded into Baku the government established minimum standards of labour that had to be abided by. This led HSBC to develop contracts between its employees to minimise the conflict that may arise due to the political tensions between the government, employees and HSBC. Minimum standards of labour are established to ensure that the employees are not exploited and are provided with adequate safety and monetary measures. This did not occur with the TWC giant, Nike, who was found to be exploiting workers in the famous 'sweat shop' factories where the employees were paid well below the minimum wage and not provided with adequate safety procedures or equipment.

Labour law variations is a political issue that needs to be addressed when expanding globally. Wages and working conditions are predominantly the issues that need to be considered. Wages are often determined by the government or set out in contracts or agreements between the employees and the employer. However in most developing countries contracts or agreements do not exist so therefore labour exploitation frequently occurs as global businesses push to maximise profits. Labour law variations such as those of Occupational Health & Safety (OH&S), EEO and Anti Discrimination laws do not exist so many factories or production facilities provide inadequate safety measures. These political issues vary between countries but will arise when a business adopts a global workforce.

World trade organisations are often involved in ensuring the protection of the workers of the host countries. Trade organisations such as the WTO present political issues regarding the global workforce. This organisation is often the promoter of ensuring the protection of the employees through the establishment of common labour standards between member countries. This is evident in relation to the Fosters Group Limited where when China joined the WTO, strict labour laws were implemented influencing the operations of this country.

Social/cultural issues also arise with a global workforce. Cultural diversity is a common barrier to the achievement of an harmonious and productive workforce. Global businesses have to consider the differences in the culture of the employees of that of their host country and also with that of the domestic country which may be employed in the international operation.

Conflicting religions, languages and tastes are all issues that arise with a global workforce and if a business is to have successful workers they need to carefully manage and understand the differences in culture. The cultural diversity evident in the global workforce also have varying ethics and morals that may impact upon the business and these need to be understood to achieve effective employment relations.

There are also significant management issues that arise with the need for a global workforce. The TNC needs to adopt a staffing system that suits the need of the business and will provide maximum profitability. The choice of an ethnocentric (parent company staffing), polycentric (host country staffing) or geocentric (best person for the job) staffing system is an important issue that needs to be considered. The use of an ethnocentric staffing system enables goals and objectives for the business to be achieved whilst the ethnocentric approach has the advantage of the managers having an understanding of the local market and they would provide valuable market insight. Fosters Group Limited uses a combination of polycentric and geocentric staffing to ensure that the local markets are understood whilst also the best person for the job is chosen.

Global businesses also need to adopt the correct organisational structure that is suitable for the business. This may be in the form of a geographical division or customer based but must be applicable to the business.

The shortage of skilled labour is another management issue that needs to be considered and may influence the choice of the staffing system. In developing countries especially, skilled labour is often non-existent so the global business should be aware that it may be required to use staff from its domestic country.

It is apparent that businesses expand globally for many reasons but it is this global expansion that presents political, social/cultural and management issues in relation to the global workforce.

MUSIC

Two texts have been selected for close analysis in Music, written by students in response to the following questions:

Describe the structure of this excerpt. (2002 HSC Question 1)

How is contrast created in this excerpt? (2002 HSC Question 3)

The two selected answers to these questions have been typed for clarity and presented in Figures 4.1 and 4.2 with features of the layout and music notation preserved as much as possible. Original copies of the hand-written examination answers are provided in Appendix A.

Exemplar Answer HSC 2002 (Board of Studies NSW, 2003d)

Question 1: Describe the structure of this excerpt

This piece is a theme and variations. It is performed by a small ensemble consisting of a viol, recorder, lute, and bass stringed instrument. Each section is 4 bars long and the time signature is 6/8.

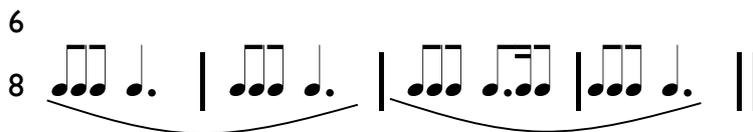
Structure A | A1 | A2 | A3 | A4 | A5 | A6 | A7 |

Repetition of melody provides unity.

Use of same instrument through provides unity.

Section A - 4 bars long.

Viol performs melody whilst bass notes are provided by bass stringed instrument.



Phrased in bars of 2.

Bass plays 6



with some extra passing notes. Lute provides harmonic support with chords.

A1

Recorder performs melody. Melody remains the same.

Pure tone colour of recorder contrasts with stringed tone colour of supporting lute.

A2

Viol performs melody. Melody line is more ornamented, particularly in the second bar of each phrase.

A3

Melody uses further decorative patterns such as mordents, ornaments and short trills. Bass is provided by pizzicato strings. This provides contrast with previous bass arco bowing.

A4

Viol performs melody. It is supported by lute.

A5

Bass

6



using pizzicato strings.

This contrasts with the previous

bass figure of

A6

Viol performs melody

A7

Recorder plays melody. Less ornamentation.

Figure 4.1: Music Text 1

Exemplar Answer HSC 2002 (Board of Studies NSW, 2003d)
Question 3: How is contrast created in this excerpt?

Pitch material – begins with oboe melody in a narrow pitch range, low register. The string part takes over and has a wider range, taking the melody on a gradually ascending path. This rise in pitch adds to the climax of the piece, a contrast from the restricted oboe melody. Also, towards the climax the amount of harmonic material increases & more rich, complex harmonies are present.

Tone Colour – begins with solo oboe and rich, swelling string. This changes when melody is repeated and strings take the lead. A more rich & varied tone colour. Then oboe takes over again with its thin nasal sound with new melodic material. Then it again swaps to strings (rich and full sound) which take the piece to its climax. Brass and cymbals & rest of orchestra is added but (contrast from solo oboe) blends with strings for a warm, mellow effect.

Structure – Smeaton begins quietly with oboe in a simple, restricted melody. He allows the strings to take this and augment it to take the melody upwards and to a climax. From here there is less formal structure than at the beginning, with flowing melodies and no clear-cut divisions.

Dynamics/Ex. Techniques – mostly dynamics are quite soft in opening, but then swell hugely as all instruments play more loudly. Then volume dies back down to moderate for a while, then to very loud with whole orchestra for ending. This is directly contrasting to softness at beginning.

Texture- Beginning: contrast between thin oboe melody with accompaniment (homophonic) and ending: multi layered climax with many harmonic layers (polyphonic). Texture gradually swells with addition of instruments and depth of harmony to end up very contrasting to the beginning.

Duration – Melody is made up mostly of long durations, but occasionally there is quicker, scale-like bit



In strings climax, oboe and clarinets have a series of sustained notes which contrast to the slightly faster melody over the top. Also, percussion has shorter notes like cymbal crashes, which contrast in length to the melody. At beginning, solo oboe and strings.

Figure 4.2: Music Text 2

4.3.2 Questions to guide discourse analysis

As there is a wide range of complex analytical possibilities for discourse analysis in SFL, a series of guiding questions were developed to address RQ 1 directly and to account for the pedagogical context of this research. The inspiration for this list came from the experience of Professor Mary Schleppegrell and her colleagues at UC-Davis who worked with teachers to build an understanding of the disciplinary literacies of History. The leaders of this project used probe questions to address each of the metafunctions and therefore to guide what they called ‘functional language analysis’ (Fang & Schleppegrell, 2010). Guiding questions were drafted in the following way:

Content: What is going on in this text? Who does what to whom, how, when, and where?

Organisation: How is this text organised?

Style/Voice: How does the author of this text interact with the reader? What is the author’s perspective? (Fang & Schleppegrell, 2010, p. 593)

The use of probe questions such as these was considered to be a useful way to organise this discourse analysis. A series of six probe questions (numbered a to f) were developed to help organise the discourse analysis and its findings:

- a) What kinds of examination questions do students have to answer?
- b) What kind of answer do students have to write in the HSC examination?
- c) How is the answer organised?
- d) What is the content of the answer? What is going on? Who does what to whom, how, when and where? What ideas are expressed?
- e) How are ideas connected and what kinds of connections are made?
- f) How does the text interact with others?

These questions relate to aspects of SFL theory. Questions a and b relate to genre, question c relates to textual meaning, question d to ideational (experiential) meaning, question e to logical meaning and question f to interpersonal meaning. These questions

also help to guide the organisation of this chapter, so the section in which these aspects of meaning are analysed is indicated in the far right column of Table 4.4. While all aspects of meaning were analysed, not all are reported in detail in this chapter, due to space restrictions. Some analysis has been located in Appendix A, as referenced by the abbreviation ‘App A’ in the table.

Table 4.4: Guiding questions and analytical resources from SFL

Guiding questions	Analysis resources from systemic functional linguistics	Related section of this thesis	
a) What kinds of questions do students have to answer?	Genre: Identify the genre of the exam question	4.4	
b) What kind of text do the students have to write in the HSC examination?	Genre: Evaluate purpose of the text; compare and contrast with known text types (genres) found in schooling	4.4	
c) How is the text organised? How does it ‘hang together’ cohesively?	Textual Meaning Identify staging strategies for building of meaning in a text (Theme/New)	4.4	
d) What is the content of the text? What is going on in this text? Who does what to whom, how, when and where? What ideas are expressed?	Ideational - experiential meaning - transitivity; lexical chains; types of entities (technicality, abstraction, specialised language and grammatical metaphor); nuclear relations; analysis of activity sequences	Business Studies	Music
		4.6.1 App A	App A 4.7.1
		App A	App A
		4.6.2 4.6.3 & 4.6.4	App A 4.7.3
e) How are ideas connected and what kinds of connections are made?	Ideational – logico-semantic meaning combining clauses - analysis of taxis (hypotaxis and parataxis); sentence types; conjunctions; expansion strategies	App A	App A
f) How does the text interact with others? How does the author of this text interact with the reader? What is the author’s perspective?	Interpersonal meaning Analyse mood, modality and appraisal resources/evaluative language	App A	App A
		4.6.3	App A
		4.6.5	App A & 4.7.3
		4.8	4.8

Analysis related to each of the guiding questions above will not be reported in equal detail. As explained in the methodology chapter, in the process of comparison with other high achieving and low achieving samples, some aspects of meaning were determined to be more salient than others. For example, in terms of interpersonal meaning, resources of modality were certainly deployed by writers in both Business Studies and Music, but these were not the kinds of resources which determine ultimate success or failure of an answer. Instead, genre and ideational meaning (experiential and logical) are the ‘make or break’ features of successful answers, so these receive the most attention in this chapter.

The rest of this chapter explores different aspects of disciplinary literacy according to the guiding questions. Before each section, the aspect of SFL to be examined will be explained in order to contextualise the analysis. Firstly, Section 4.4 will explore the answers to guiding questions a and b, by examining the genre of the examination questions and successful answers to those questions. This section will also answer question c, involving aspects of staging, or organisation, of each answer, as well as its overall genre. Business Studies will be tackled first, followed by Music. Next, experiential and logical meaning will be explored in Section 4.5 (questions d and e) and Section 4.6 for Business Studies and Section 4.7 for Music. Then, analysis related to question f and interpersonal meaning will be briefly presented in Section 4.8. Analysis will culminate in the presentation in Section 4.9 of a research map in which all the main features of successful answers are synthesised.

4.4 Genre, staging and Thematic development

Guiding questions a and b address how students should answer the exam question from the perspective of genre. Genre refers to the ‘recurrent global patterns’ that distinguish the types of texts found in schooling, such as stories, reports, explanations and arguments. Each of these global patterns involves consistent ‘local patterns to distinguish stages within a text’ (J. R. Martin & Rose, 2008, p. 5). Genres are also described as ‘staged, goal-oriented social processes’ (J. R. Martin & Rose, 2008, p. 6) because they unfold in steps or stages to achieve a final step (a goal) and they are composed for different audiences. Determining the genre or text type required by Business Studies and Music students is one of the main disciplinary demands of writing.

Three genres are relevant to this research: explanations, reports and recounts.

Explanations ‘are concerned with explaining how processes happen’ (J. R. Martin & Rose, 2008, p. 150); they typically feature chains of cause and effect called implication sequences (Wignell et al., 1993). This chapter will show how Business Studies examination answers are explanation genres, and how successful students construe implication sequences to compose explanations. In contrast, Music examination answers will be found to be a type of descriptive report, but which also has features of a recount. Reports describe and classify phenomena (J. R. Martin & Rose, 2008, p. 141) and, in Music, the phenomenon is musical sound, described and classified in terms of concepts of music. Music, however, is described in chronological sequence, more typical of a recount, the text type used to retell or record events. Staging of each of these genres refers to how meaning unfolds in the explanation or description. Staging is closely related to textual meaning.

Textual meaning concerns how a text is organised and how meanings are arranged or packaged, and this type of meaning is addressed by guiding question c. Analysis of textual meaning will show how students should organise their answers and how the information in their answers should unfold or flow. The key resource for analysing this aspect of writing is Theme. In SFL, Theme means the prominent part at the beginning of a clause which ‘serves as the departure of the message; it is that which locates and orients the clause within its context’ (Halliday & Matthiessen, 2004, p. 65). Theme can be analysed in a clause, and beyond the clause, in the beginning of a paragraph and in the beginning of a text (J. R. Martin, 1992). Themes are like signposts that preview ideas to be raised as the text unfolds (Humphrey, Droga & Feez, 2012, p. 127) and are sometimes described as ‘openers’ (Derewianka, 2011, p. 143). The labels for levels of Theme are shown in Table 4.5, along with an explanation of each.

Table 4.5: Levels of Theme

level of Theme	Explanation
Theme	the starting point of a clause; sentence opener
hyperTheme	topic sentence; paragraph opener
macroTheme	introductory paragraph; text opener

This chapter will show how Business Studies and Music use different patterns of Theme, providing insights into how students should organise and stage the explanations and descriptions they have to write.

4.4.1 Business Studies: explanation genre

Business Studies Text 1 belongs to the explanation family of genres (J. R. Martin & Rose, 2008). The exam question is in two parts and gives rise to a two-part answer, with a different explanation for each. The first instruction is ‘Outline the reasons why businesses expand globally’, which is answered using a factorial explanation outlining

reasons or factors for one outcome (global business expansion). The second instruction is ‘Critically analyse the political, social/cultural and management issues that arise with a global workforce’, which is answered using a consequential explanation to explain several consequences of one action (global expansion) (J. R. Martin & Rose, 2008, p. 158). The staging of an explanation can be represented as Phenomenon^Explanation, which means that the first stage of the explanation introduces the phenomenon to be explained, followed by the explanation itself. The caret ^ indicates the Phenomenon stage is followed by the Explanation stage. The stages of the explanation are shown in Appendix A.

The organisation of the Business Studies Text 1 is revealed by analysing patterns of Theme. The introductory paragraph is a macroTheme that previews both the factorial and the consequential explanations in the answer. The heading, ‘Reasons for Global Expansion’, serves as macroTheme 1 to preview the explanation of five reasons that follow. Each of the five reasons for global expansion is previewed in a hyperTheme, or topic sentence in each paragraph (labelled hyperThemes 1 a, b, c, d, e in the analysis). In part 2 of the examination answer, three focus areas are given as stimulus in the question: political, social/cultural and management issues. The student uses each of these three areas as a hyperTheme for each consequence of global expansion (hyperThemes 2, 3 and 4). Each of these hyperThemes then becomes a macroTheme for further development of the sub-topic in subsequent paragraphs. At the clause level, the main strategy for thematic progression is repetition. At the beginning of most clauses, the Theme ‘business’, or in its place, the name of a case study company is in Theme position. This constantly reinforces that business is the point of departure for meaning in the clause and hints at the importance of business as an agent, acting in the world.

The level of Thematic planning in this answer is impressive and shows how ideas are clearly signposted and previewed, to address the marking criterion that requires a ‘sustained, logical and cohesive’ answer. A summary of Thematic development is provided in Figure 4.3. Each level of Theme is represented by indents, such that macroTheme 1 (the introductory paragraph) is related to several hyperThemes (paragraph topic sentences) 1a, 1b, 1c as follows:

macroTheme 1
 hyperTheme 1a
 hyperTheme 1b
 hyperTheme 1c etc.

The purpose of Figure 4.3 is to show the sophisticated and complex patterning of Theme in this answer by including only those sections of the text that have a Thematic role.

Question:

Outline the reasons why businesses expand globally **macroTheme 1** and critically analyse the political, social/cultural and management issues that arise with a global workforce. **macroTheme 2**

Answer:

Transnational Corporations (TNC's) are becoming increasingly found all over the world. TNC's such as HSBC and Fosters Group Limited are expanding globally in order to achieve company goals and ultimately maximise profits. **macroTheme 1**

These TNCs are significantly influenced by political, social/cultural management issues that arise with a global workforce. **macroTheme 2**

Reasons for global expansion (*heading*) **macroTheme 1**

Businesses are increasingly being confined to a saturated market that limits potential growth and the maximisation of profit. Thus business will expand in an attempt to increase the sales and to find new markets. **hyperTheme 1a**

Global businesses also expand because of the desire to achieve economies of scale. **hyperTheme 1b**

Businesses expand globally to acquire access to technology, such as HSBC. **hyperTheme 1c**

Some businesses expand globally to avoid tax and to achieve tax minimisation. **hyperTheme 1d**

Diversification is another reason why businesses expand globally. **hyperTheme 1e**

Cushioning economic cycles is also a reason to expand globally. **hyperTheme 1f**

As businesses expand globally they encounter many political, socio/cultural and management issues that need to be addressed in order to operate effectively and profitably. **macroTheme 2** (restatement)

There are significant political issues that arise when businesses expand globally in relation to the global workforce. **hyperTheme 2a/macroTheme3**

The host country may have different standards of labour that exist to protect their workers. **hyperTheme 3a**

Labour law variations is a political issue ... **hyperTheme 3b**

World trade organisations are often involved in ensuring the protection of the workers... **hyperTheme 3c**

Social/cultural issues also arise with a global workforce. **hyperTheme 2b/macroTheme 4**

Cultural diversity is a common barrier to the achievement of an harmonious and productive workforce. **hyperTheme 4a**

Conflicting religions, languages and tastes are all issues that arise with a global workforce **hyperTheme 4b**

There are also significant management issues that arise **hyperTheme 2c/macroTheme 5**

The TNC needs to adopt a staffing system that suits the need of the business... **hyperTheme 5a**

Global businesses also need to adopt the correct organisational structure that is suitable for the business. **hyperTheme 5b**

The shortage of skilled labour is another management issue **hyperTheme 5c**

It is apparent that businesses expand globally for many reasons but it is this global expansion that presents political, social/cultural and management issues in relation to the global workforce. **macroNew2** (Restatement)

Figure 4.3: Thematic development in Business Studies Text I

Analysis of Theme shows how important it is to plan a Business Studies answer. Tightly structured macroThemes and hyperThemes in Business Studies Text 1 replicate the dot points of the syllabus topic ‘Reasons for Global Expansion’. Eight reasons are provided in the syllabus and the student has reproduced six of them, thus revealing that not all of the syllabus points are required for a Band 6 answer. The student has reproduced points in a different order from the syllabus so there also seems to be no preferred sequence or hierarchy of importance. Table 4.6 compares the points in the Business Studies syllabus and the syllabus points that are found in hyperThemes in the student’s answer.

Table 4.6: Comparison of syllabus points and hyperThemes in Business Studies Text 1

Business Studies syllabus topic: Global Expansion	hyperThemes in Business Studies Text 1
reasons for expansion <ul style="list-style-type: none"> • increase sales / find new markets • acquire resources and have access to technology • diversification • minimise competitive risk • economies of scale • cushioning economic cycle • regulatory differences • tax minimisation 	reasons for expansion <ul style="list-style-type: none"> increase the sales and find new markets acquire access to technology diversification - achieve economies of scale cushioning economic cycles - minimise tax

(Board of Studies NSW, 2009b, p. 35)

This table shows that writing in Business Studies is a highly reproductive exercise because, in successful answers, most syllabus points are lifted word for word from the syllabus.

4.4.2 Music: musical description genre

The genre used in successful Business Studies answers is not the same as the one used in a successful HSC Music answer. Successful Music answers use a distinctive type of descriptive report which also has features of a recount. The purpose of a descriptive report is ‘to classify a phenomenon and then describe its features’ (J. R. Martin & Rose,

2008, p. 142). Music students describe music in a series of ‘findings’, referring to one or all of the concepts of music, depending on the examination question. Findings are always connected to a particular time in the music, such as the beginning, middle or end, thus building a chronological sequence which correlates with the stage of a recount that records ‘a sequence of events without significant disruption’ (J. R. Martin & Rose, 2008, p. 51). The main difference between more typical recounts, which tell what happened in the past, is that rather than using past tense verbs, Music answers use present simple, or ‘timeless’ present tense verbs, for example ‘Viol **performs** melody’ (Music Text 1). Use of the timeless present tense is a convention in traditional musical analysis and musicology (e.g. Forte, 1962; Schenker, 1954) perhaps suggesting that the same musical events occur every time the music is performed or heard. I have named this variation of the description genre a musical description to differentiate it from other descriptions which do not have this recount-like quality.

As in Business Studies answers, headings are important for Thematic development in Music answers. There are two ways of staging a musical description. One variant is similar to a factual recount, which starts with an orientation, followed by description of musical sections in chronological order, as found in Music Text 1. The alternative staging is illustrated in Music Text 2, which approximates more closely the staging of a description. While there is no macroTheme to start Music Text 2, the names of concepts of music are used as hyperTheme headings for each paragraph (Pitch, Duration, Texture etc.). Use of headings (sections or concepts of music) in both variants of staging is therefore a key characteristic of successful Music answers. Staging of the Music texts is shown in Appendix A.

These two staging strategies are characterised by different temporal patterns. In Music Text 1, the logogenesis of the text unfolds in the same time sequence as the musical excerpt, from beginning to end, represented in Figure 4.4. The beginning of the text describes the beginning of the music, the middle of the text describes the middle of the music, and so on. The arrow represents time unfolding from left to right.

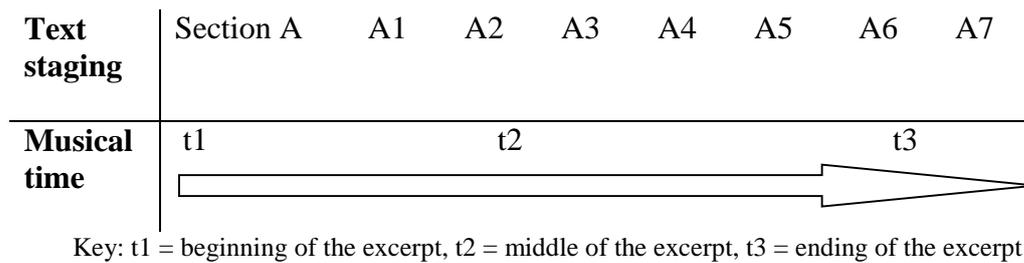


Figure 4.4: Logogenetic development of text and musical time in Music Text 1

In contrast, each paragraph of Music Text 2 describes the musical events from beginning, middle to end in relation to a particular concept of music. This means that the beginning of the music is described six times with a different concept as the focus each time, as represented in Figure 4.5.

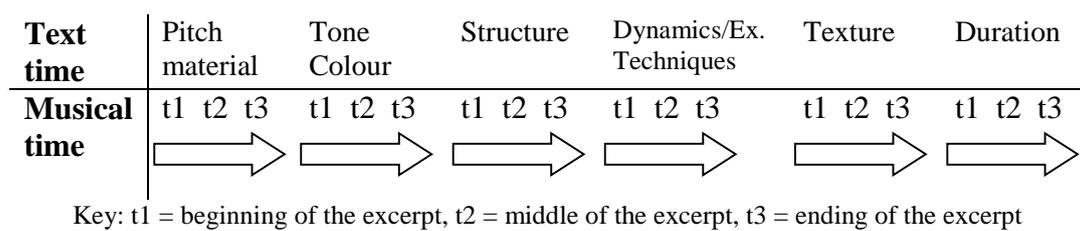


Figure 4.5: Logogenetic development of text and musical time in Music Text 2

These two versions of logogenetic development show the importance of time in Music answers. Successful answers tend to relate each finding about a feature of music to a particular timing point in the music (such as the beginning, middle or end). Temporal

specification is an issue that will be further explored in the following section on experiential meaning and it will become part of how to make a point in music.

Apart from the importance of temporal specification and the use of headings, more detailed linguistic analysis is required for further understanding of what *kinds* of meanings about concepts of music are made by successful students.

4.5 Overview of experiential and logical meaning

Experiential meanings and logical meanings, according to SFL theory, are language resources that belong to the system of IDEATION. Experiential meanings represent and relate the ‘people, things, processes, places and qualities’ that build the field of a text (J. R. Martin & Rose, 2007, p. 75). Analysis through the lens of experiential meaning helps to answer guiding question d:

What is the content of the answer?

What is going on?

Who does what to whom, how, when and where?

What ideas are expressed?

Analytical tools used to explore experiential meanings in a text include: transitivity, classification and composition taxonomies, nuclear relations and activity sequences. A transitivity analysis (Halliday & Matthiessen, 2004) of the successful Business Studies and Music answers determines the kinds of Participants (things and people), Processes and Circumstances used in these answers. An analysis of lexical items reveals how the examination answers build field taxonomies. Taxonomies show how lexical items are connected in relationships of classification (class-member) or composition (whole-part) (J. R. Martin & Rose, 2007, p. 80). Analysis of taxonomic relations can show how different pieces of knowledge in an examination answer fit within a bigger picture of disciplinary knowledge, an analysis highly relevant to the task of determining

disciplinary literacies. Exploration of nuclear relations, which are ‘configurations of elements within the clause’ (J. R. Martin & Rose, 2007, p. 75) show how lexical items are arranged at the clause level. This enables us to understand ‘who does what to whom’ in a text. For example, in Business Studies, nuclear analysis shows the importance of profit and loss, while in Music, the role of performing media will be clarified through nuclear analysis. Finally, analysis of activity sequences can show what kinds of processes are common in a field and how they unfold in a text. Activity sequences construe ‘experience as an unfolding set of activities’ (J. R. Martin & Rose, 2007, p. 75). Analysis of activities in Business Studies texts will reveal implication sequences, with one activity implying another, as in cause and effect relationships.

Analytical tools used to explore logical meanings (Halliday & Matthiessen, 2004, pp. 309-310) in a text include: taxis, used to describe the ways two or more adjacent clauses can be linked; logico-semantics, used to describe the type of expansions of meaning that can be made between clauses; and conjunction. A combined analysis of activity sequences and logico-semantic resources will help to answer guiding question e:

How are ideas connected and what kinds of connections are made?

The logico-semantic resource of expansion (Halliday & Matthiessen, 2004, pp. 377-378) is the system of possible relationships between clauses. Elaboration is an expansion resource, used when one clause elaborates the meaning of another by restating, further specifying or exemplifying it (Halliday & Matthiessen, 2004, p. 396), a relation coded in analysis with an equals sign (=). The second type of expansion, extension, is used to expand the meaning of a clause by adding something new, or by giving an exception or an alternative (Halliday & Matthiessen, 2004, p. 405), and is indicated by a plus sign (+). Enhancement is an expansion resource through which one

clause enhances the meaning of another by qualifying it by reference to time, place, cause or condition (Halliday & Matthiessen, 2004, p. 410), represented in analysis by a multiplication symbol (x). Expansion analysis helps reveal the way patterns of activities unfold in Business Studies and Music.

The logico-semantic meaning resource, conjunction, contributes to the cohesion of a text beyond the boundaries of the clause. Conjunctions tie together the activities and sequences in a field logically, and combine with other cohesive resources to organise discourse as waves of information. Cohesive resources ‘originate in the textual meta-function’ (Halliday & Matthiessen, 2004, p. 532) but they will be analysed after discussion of expansion and logico-semantic meaning as they are closely connected with activity sequences. The repertoire of expansion and conjunction patterns uncovered in this analysis will be incorporated into the concept of making a point in Business Studies and Music later in this analysis.

4.6 Analysis of experiential and logical meaning in Business Studies

This section reports on the main findings of the analysis of experiential and logical meaning in Business Studies Text 1. Firstly, transitivity will be discussed with a focus on one particular type of process: size and amount processes. Next, analysis of nuclear relations will reveal the importance of profits. This is confirmed in the analysis of implication sequences to follow. This section will conclude with a disciplinary strategy for making a point in Business Studies.

4.6.1 Size and amount processes

In Business Studies Text 1, one particular type of process is common. In just one text, there are 25 material processes (including embedded clauses) of the type

Transformative, Elaboration, Size or Amount (Halliday & Matthiessen, 2004, p. 187).

Examples of these kinds of processes include *expand*, *grow*, *diversify*, *reduce* and *decrease*. In this successful Business Studies answer, two sets of oppositions are created in transformative material processes between:

- size: growth (+) versus limiting of growth (-)
- amount: increasing (+) versus decreasing (-).

Table 4.7 shows the number of processes of each type and gives examples:

Table 4.7: Size and amount processes in Business Studies Text 1

Transformative material processes (Halliday & Matthiessen, 2004, p. 187)	Number of processes	Examples from Business Studies Text 1
<i>size</i> expanding, grow, diversify (+)	12	2i TNCs such as HSBC and Fosters Group Limited are expanding globally
are being confined, limit (-)	2	4 Businesses are increasingly being confined to a saturated market [[that limits potential growth and the maximisation of profit]].
<i>amount</i> maximise, increase (+)	7	9i By increasing production 9ii the business is able to reduce costs 9iii and increase profits
reduce (-)	4	
Total	25	
Number of material processes	35	
Total number of processes	44	

Throughout this answer, there is a pulsing, or oscillation, of meaning, between increasing (+) and reducing (-), and between growth (+) and contraction (-). Often, a pattern of this type occurs within a clause complex. This oscillation of meaning can be represented another way in Table 4.8, with small dots showing reducing/contracting processes, and the larger dots showing increasing/growing processes. The verbal group in each clause is indicated in bold.

Table 4.8: Patterning of size and amount processes in Business Studies Text I

Clause	Size		Amount	
	-	+	-	+
8i Global businesses also expand		●		
8ii because of the desire to achieve economies of scale.				
9i By increasing production				●
9ii the business is able to reduce costs			●	
9iii and thus increase profit				●
9iv which is the ultimate goal.				

The repetition and reinforcement of business size and profits through the ‘limit/expand’ or ‘increase/reduce/increase’ patterns are powerful linguistic tools for students of Business Studies. The patterns in the full text can be seen in Appendix A. When combined with logico-semantic resources, a semantic picture emerges of Business Studies as an activity sequence of cause-effect relations, where the ultimate goals are to grow and increase profits and to reduce costs.

4.6.2 Nuclear analysis: The importance of profits

Analysis of nuclear relations can show how lexical items within a clause are related. In the nuclear model of experience, the Process and Medium are at the centre of a clause. Without a Process, there is no being, having, saying, sensing or acting in the world, and the Medium is the participant without which this process could not take place (Halliday & Matthiessen, 2004, p. 288). Processes in Business Studies clauses tend to be in the central element of a clause, creating event-focused activity sequences. This means that the experiential world of Business Studies is about what businesses do rather than what they are or relate to. There are two main types of Participants involved in this activity: ‘business’ and the name of a case study. In some clauses, known as effective clauses,

there is a sense of ‘agency’ in the clause (Halliday & Matthiessen, 2004, p. 297), as the business acts on another Participant, for example costs:

the business is able to reduce costs (clause 9ii)

In an effective clause like this, the business is an ‘Agent’, which is a kind of ‘external cause’ (Halliday & Matthiessen, 2004, p. 289) that acts on the Medium of costs. This is an example of the way ‘business’ is anthropomorphised in Business Studies writing, as if it has human qualities (e.g. ‘it needed to maximise sales... it wanted to reduce taxes’). Sometimes, in another type of clause called ‘non-effective’, a business takes action without an effect on another Participant, so there is no sense of agency.

TNCs such as HSBC and Fosters Group Limited are expanding (clause 2i)

In this case, the business is the Medium, without which the Process (of expanding) could not take place.

Activity sequences related to money are effective clauses, where the business has the role of Agent, acting on the world to increase entities related to money: profits/revenue/sales. When the central process is a growth in size or increase in amount, the Medium involves profits, sales, revenue and production. This construes a link between increased production of goods and of money. These connections between ‘increasing’ processes and profitability are shown in Table 4.9, where the Medium is shaded.

Table 4.9: Nuclear relations: examples from Business Studies Text 1 of central and nuclear elements when central element is increasing/growing

Clause	nuclear (Agent)	central (Process)	nuclear (Medium)
2iii	(the business)	Maximises	profits
7iv	it	needed to maximise	sales
9i	(it)	Increases	production
9iii	(it)	is able to increase	profit
10ii / 10iii	the company	can maximise	revenue
12ii	it	increased	production

When a Process involves contraction in size or decrease in amount, the Mediums are costs and tax. As shown in clause 16ii in Table 4.10, the periphery reveals locations of operations, e.g. global markets in contrast with domestic markets.

Table 4.10: Nuclear relations: examples from Business Studies Text 1 of central and nuclear elements when central element is limiting/reducing

Clause	nuclear (Agent)	central (Process)	nuclear (Medium)	peripheral
9ii	the business	is able to reduce	costs	
13ii	this	reduces	costs	
14ii	‘	can avoid	tax	
14iii	‘	can minimise	tax	
16ii	‘	wants to reduce	taxes	in their domestic country

In summary, analysis of central and nuclear elements shows that successful Business Studies answers construe meaning about businesses taking action to increase production and profits and decrease costs and tax. This is significant given that the syllabus does not focus on profits or profitability. In contrast, Business Studies Text 1 specifically states that businesses are in operation to create profits, thus revealing an important part of the hidden curriculum. This also suggests that in order to achieve a Band 6, students need to specifically refer to profits, and as indicated in the logico-semantic analysis, identify a purpose for being in business. These characteristics were tested against other successful HSC answers from the Standards Packages and all were found to have a

relentless focus on profitability. Profitability, therefore, is a central theme in the disciplinary reasoning of Business Studies. The next section explores how to write about profits as a purpose for business.

4.6.3 Implication sequences

Business Studies texts unfold according to relations of cause and effect, building implication sequences. Implication sequences construct an ‘ordered connection’ among activities where ‘each step through the sequence implies what has gone before’ (Wignell et al., 1993, p. 157). From the system of logico-semantic meaning, conjunctions are one of the main resources used to show cause and effect relations along with logical metaphor, where conjunctive relations are implied. Conjunctions of consequence relate units of meaning according to cause and effect (J. R. Martin & Rose, 2007, p. 117). Sub-types of conjunctions of consequence found in Business Studies texts describe purpose (e.g. *so as, in order to*), cause (e.g. *because, so, since, therefore*), means (e.g. *by, thus*) and condition (e.g. *if, provided that, unless*) (J. R. Martin & Rose, 2007, p. 122). There are 28 conjunctions of consequence type in Business Studies Text 1, most being sub-types of purpose and cause, which build a consistent implication sequence with profitability as a desirable end result.

One short section of Business Studies Text 1 will be analysed to show the way implication sequences are created in Business Studies.

In order for this business to substantially grow it needed to move beyond the national boundaries and trade in the international market place to maximise sales.

Global businesses also expand because of the desire to achieve economies of scale. By increasing production the business is able to reduce costs and thus increase profit which is the ultimate goal. (Clause complexes 7-9)

These clauses have been arranged in Table 4.11, following Martin (1992), into a reticulum, which is a table with arrows that show which clauses are dependent on others. In just 9 clauses, there are five conjunctions of consequence. Conjunctions of addition (e.g. *and*) are also important for linking extra messages about business activities.

Table 4.11: Conjunctions within one paragraph of Business Studies Text I

Type	Conjunction	Clause	Text
consequence: purpose	<i>in order for</i>	7i	In order for this business to substantially grow
		7ii	it needed to move beyond the national boundaries
addition	<i>and</i>	7iii	and trade in the international market place
consequence: purpose		7iv	to maximise sales.
consequence: cause	<i>because</i>	8i	Global businesses also expand
consequence: means	<i>by</i>	8ii	because of the desire to achieve economies of scale.
addition	<i>and</i>	9i	By increasing production
consequence: purpose		9ii	the business is able to reduce costs
	<i>thus</i>	9iii	and thus increase profit
		9iv	which is the ultimate goal

Consistent conjunctions of consequence also point to the significance of profitability as a central concept in Business Studies, in terms of purpose, cause and means. Most purposes are explicitly stated through ‘in order to’ conjunctions, or in a shortened form, ‘to’ (*to achieve company goals, to maximise revenue and profits, to avoid/minimise tax*). Causes are framed in terms of what businesses desire (*because of the desire to achieve economies of scale*) and means describe what businesses have to do to achieve their goals (*by increasing production*), yet the ultimate purpose is still to grow profits and reduce costs.

This analysis shows the importance of the expansion strategy of enhancement (Halliday & Matthiessen, 2004, p. 410) where one clause expands another by reference to ‘time,

place, manner, cause or condition'. Enhancing clauses are dependent, or hypotactic, clauses. Writing in Business Studies relies heavily on patterns of hypotaxis, where one clause depends on another for meaning, revealed in detail in Appendix A.

Analysis of implication sequences shows that successful writing in Business Studies construes a generic pattern of expansion, where the business grows for the purpose of increasing profits and reducing costs. In this generic implication sequence, represented below, a caret ^ indicates a sequence of elements, after Martin and Rose (2007).

Business takes some form of action

^

... so it can reduce costs and increase profits

While the syllabus refers to success and failure of a business, it does not specify how a business can succeed. Explaining how a business can succeed by reducing costs and increasing profits, however, is found in successful HSC Business Studies answers.

While these two effects are closely related if not simultaneous (i.e. by reducing costs one would also increase profits), successful answers tend to alternate between the two. This is also shown in the oscillating patterns of size and amount processes which have already been explored in this chapter. This generic implication sequence represents a fundamental feature of disciplinary writing in Business Studies, one that successful students tend to emphasise yet one which is not made explicit in the syllabus or in text books.

4.6.4 Parallel implication sequences connecting syllabus points and case studies

Implication sequences are the key to understanding how successful students manage the rhetorical movement between business theory and case studies in Business Studies examination answers. As explained above, Business Studies students are required to include case studies in their answers, but the syllabus does not provide any guidance for how this is to be achieved. Nevertheless, case studies can easily be linked to syllabus points at the level of the paragraph, as an analysis of successful texts has revealed.

Tracking expansion strategies in Business Studies Text 1, a pattern has been identified comprising two parallel implication sequences, one for business in general, and one for the case study, as represented in Figure 4.6.

Implication sequence 1 (business in general)	Implication sequence 2 (case study)
Business takes some form of action ^ ... so it can reduce costs and increase profits.	A case study company takes action ^ ... so it can reduce costs and increase profits.

Figure 4.6: Parallel implication sequences showing link between theory and case study

These parallel implication sequences represent an ‘ideal’ type, a synthesis of functional moves from many successful paragraphs. In Business Studies Text 1, some aspects of this sequence are in a slightly different order, as will be shown in analysis of paragraph 2 (clauses 4-7). The syllabus point related to this paragraph is ‘to increase sales/find new markets’. This point is bolded in the student’s answer here:

Businesses are increasingly being confined to a saturated market that limits potential growth and the maximisation of profit. Thus business will expand in an attempt **to increase the sales and to find new markets**. For example the TWC, Fosters Group Limited, was situated in the saturated Australian market where it occupied over 40% of the market share and over 90% in Victoria. In order for this business to substantially grow it needed to move beyond the national boundaries and trade in the international market place to maximise sales.

Firstly, the student describes the business problem that arises when a market is saturated. The elaboration explains why a saturated market is undesirable, that is, because it 'limits potential growth and the maximisation of profit'. The syllabus point comes in the second sentence, explaining why a business expands:

Thus business will expand in an attempt to increase the sales and find new markets.

Following this syllabus point, a case study is introduced, also situated in a saturated market. Some elaborating information is also provided, with statistics on the actual market share held by the case study:

For example the TWC, Fosters Group Limited, was situated in the saturated Australian market where it occupied over 40% of the market share and over 90% in Victoria Technology makes the transferring of funds and information quicker and easier.

Then the final enhancement move describes the benefits for the company: to maximise sales. This point implies an increase in profitability too.

In order for this business to substantially grow it needed to move beyond the national boundaries and trade in the international market place to maximise sales.

While there is no specific reference to profitability in this paragraph, the parallel implication sequences correlate the generic business purpose and the case study purpose, implying profits will result from online banking. Evaluation of similar moves in dozens of successful paragraphs in high achieving answers in the Standards Packages

led to the idea of making a point in Business Studies, to provide a scaffold for students in constructing a successful answer.

4.6.5 Making a point in Business Studies

The idea of making a point derived from a research project in academic literacies, based not on secondary schooling but on interpretive writing in a Master's degree course in linguistics (Humphrey & Dreyfus, 2012). Humphrey and Dreyfus identified a number of 'broad sections or phases' in 'making a point', an approach which has been adapted for the current research. In labelling functional stages for expansion in Business Studies, I have identified three moves based on the parallel implication sequences:

1. The first move is to repeat the syllabus point word for word from the syllabus.
2. Next is an elaboration move, where the syllabus point is expanded upon or restated in other words.
3. Then a final enhancement move links business activities with profits.

The final move has been called 'effect on the business' as 'effect' is broad enough to encompass a range of financial benefits for the business, such as increasing profits, increasing sales, reducing costs and reducing tax. The ultimate 'effect' is to reduce costs and increase profits. These three stages are not always found in each and every paragraph of successful writing; however, these stages are deployed in various combinations and at least once in every successful examination answer. Even if not mentioned in every enhancement move, profits and costs are specifically stated in every successful answer, at least once.

These three functional moves – Syllabus Point^Elaborate^Effect on the Business – are called 'making a point'. Table 4.12 shows the parallel implication sequence explained above, with functional moves of making a point indicated in the right hand column. As

will be shown in this and subsequent examples, successful students do not always include every single move in each paragraph. In these cases, omitted moves will be indicated by a shaded box.

Table 4.12: Parallel implication sequences and making a point in Business Studies Text 1

Generic implication sequence	Text Reason paragraph 3	Expansion moves	Functional stages
Business takes some form of action (syllabus point)	Businesses expand globally to acquire access to technology	-	Syllabus point
	Technology makes the transferring of funds and information quicker and easier	Elaboration	Elaborate
^			
so it can reduce costs and increase profits	and therefore reduces costs and increasing profits (sic).	Enhancement	Effect on the business
A case study company takes action	HSBC through expanding internationally was able to acquire the use of internet	-	Case study example of syllabus point
		Elaboration	Elaborate
^			
so it can reduce costs and increase profits.	and therefore become the first international online banking service.	Enhancement	Effect on the business

Examples of paragraphs using variations of moves can be found in Appendix A.

Apart from Business Studies Text 1 examined in this discourse analysis, examples from two further answers will be provided to show that this is a disciplinary pattern across successful writing in Business Studies. The first of these is another exemplar answer to the same 2002 HSC examination question (about reasons for expanding globally). In

Business Studies Text 2 (Board of Studies NSW, 2003c), the student uses the case study of Westfield, a company that owns and manages shopping centres. The second paragraph of this answer will be examined here. The syllabus point related to this paragraph is ‘to increase sales/find new markets’, highlighted in the student’s answer below:

The major reason that Westfield went global was **to find new markets**. Australia has a population of around 19 million which makes the market limited. Westfield found that 75% of the population are within a 35 minute drive of one of their stores meaning any more centres would not be cost effective. For a business to grow, they must **find a new market** to go to. Westfield chose the USA and UK. Each of these markets are unlimited and have no major competitors. What this means for the business is that they are able to grow.

In this student’s answer, elements of the parallel implication sequence are also found, but these elements are out of order. The syllabus point is presented in relation to the case study, Westfield, rather than in a generic form first.

The major reason that Westfield went global was to find new markets.

Later in the paragraph, however, a more generic syllabus point is provided:

For a business to grow, they must find a new market to go to.

Table 4.13 outlines the stages in the order presented in the paragraph, showing statements of syllabus points, elaboration and enhancement moves. The enhancement move reveals an end benefit of ‘growth’, which does not state the profitability objectives specifically but does imply them.

Table 4.13: Parallel implication sequences and making a point in Business Studies Text 2

Generic implication sequence	Text	Expansion moves	Functional stages
A case study company takes action	The major reason that Westfield went global was to find new markets.		Case study example of syllabus point
	Australia has a population of around 19 million which makes the market limited. Westfield found that 75% of the population are within a 35 minute drive of one of their stores	Elaboration	Elaborate
^			
so it can reduce costs and increase profits. Business takes some form of action (syllabus point)	meaning any more centres would not be cost effective. For a business to grow, they must find a new market to go to.	Enhancement	Effect on the business Syllabus point
	Westfield chose the USA and UK. Each of these markets are unlimited and have no major competitors.	Elaboration	Elaborate
^			
so it can reduce costs and increase profits.	What this means for the business is that they are able to grow.	Enhancement	Effect on the business

The same syllabus point is explained in another high achieving text, Band 5/6 Sample 1 from the 2002 HSC. In this example, the syllabus point is stated followed by a long elaboration move. Finally, the purpose of expansion is explicitly stated: ‘more profits coming in for the business’, as shown in Table 4.14.

Table 4.14: Parallel implication sequences and making a point:
2002 HSC Band 5/6 Sample I

Generic implication sequence	Text	Expansion moves	Functional stages
Business takes some form of action (syllabus point)	Acquiring new markets When a business has been around for over 10 years it finds that the market can feel that the products they have to offer have become dull or uninteresting. This is where expanding globally comes in. Because the domestic market has been saturated by this product new markets need to be found. Because the overseas markets have not seen this product, there are now many new markets for the business to inject its product. What this allows is the business to have a fresh start because they can reinvent the product in the different market	Elaboration	State syllabus point Elaborate
^ so it can reduce costs and increase profits	meaning that there are more profits coming in for the business	Enhancement	Effect on the business

One final example is provided from a different year, 2001 with a different HSC question, to show that the implication sequence is generalisable across questions. The question requires students to ‘analyse the drivers of globalisation’ and to analyse how a case study business ‘has developed its marketing strategies in response to the push for globalisation’. *Question 27, 2001 HSC* (Board of Studies NSW, 2003b)

In the first Band 5/6 sample in the Standards Packages, a student describes TNCs (transnational corporations) using the same implication sequence.

A transnational or multinational company is one which has subsidiaries situated outside the home country. Traditionally, TNCs moved production to lower costs

i.e. escape taxation policies. Modern TNCs tend to integrate their operations in different countries to take advantage of competitive advantages and specialisation of each. Ford outsourced its production in 15 different European countries for its product 'Escort' into Europe. (Board of Studies NSW, 2002)

Even this answer contains aspects of the implication sequence, stating the syllabus point twice with two corresponding enhancement moves. The case study of Ford is presented as an example in Table 4.15, but without an enhancement move.

Table 4.15: Parallel implication sequences and making a point:
2001 HSC Band 5/6 Sample 1

Generic implication sequence	Text	Expansion moves	Functional stages
Business takes some form of action (syllabus point)	A transnational or multinational company is one which has subsidiaries situated outside the home country. Traditionally, TNCs moved production	-	Syllabus point
^			
so it can reduce costs and increase profits.	to lower costs i.e. escape taxation policies.	Enhancement	Effect on the business
Business takes some form of action (syllabus point)	Modern TNCs tend to integrate their operations in different countries	-	Syllabus point
^			
so it can reduce costs and increase profits.	to take advantage of competitive advantages and specialisation of each	Enhancement	Effect on the business
A case study company takes action	Ford outsourced its production in 15 different European countries for its product 'Escort' into Europe.	Exemplification	Case study example of syllabus point
		Elaboration	Elaborate
^			
so it can reduce costs and increase profits.		Enhancement	Effect on the business

In summary, the underlying logical structure of Business Studies is an implication sequence, where businesses as anthropomorphised entities take action in the world to increase profits and reduce costs. Parallel implication sequences link a syllabus point with a case study and provide an enhancement move that explains the purpose of business activities as increasing profits or reducing costs. Now the exploration turns to Music to analyse the way concepts of music are construed in successful HSC answers.

4.7 Analysis of experiential and logical meaning in Music

This section will explore how lexical chains relate to four aspects of music:

1. performing media (musical instruments and voices);
2. time (when musical events occur, such as at the beginning, middle or end);
3. concepts of music (the six concepts from the syllabus: pitch, duration, tone colour, dynamics and expressive techniques, texture, structure and features of these concepts);
4. principles of composition (unity, contrast, similarity, difference and other organising principles of a musical work).

This analysis begins with a discussion of how lexical chains build taxonomies in successful Music answers. Taxonomies can be used to describe the more concrete, material aspects of music, for example, performing media and time. However, taxonomies will be shown to be inadequate for describing the more abstract and complex concepts of music, for example, aspects of pitch or duration. When describing a concept of music such as pitch, students can refer to several features that occur simultaneously and relationally in the same musical excerpt. Consequently, system networks will be used to represent concepts of music and principles of composition. The system networks and taxonomies introduced in this chapter are one way of representing

the content knowledge of HSC Music in all its complexity, making a contribution to understanding of the disciplinary knowledge of the subject. Following this discussion, a disciplinary way of making a point in Music will be proposed.

4.7.1 Taxonomies of performing media and time

Chains of related words in successful HSC Music answers create taxonomies of performing media and of time. The first taxonomy, performing media, is made up of the sound sources (instruments and voices) that students need to be able to identify aurally during the examination. In musical discourse, instruments are sometimes described as being part of a larger whole, for example, when a lute is described as a member of a Renaissance consort (Music Text 1). A composition taxonomy is used to map the parts of a whole, for example, the instruments that make up a musical ensemble. On the other hand, instruments are sometimes described as members of a class, for example, when an oboe is described a woodwind instrument (Music Text 2). A classification taxonomy is used to map the members of a class, for example, types of instruments of the same category. For consistency, the taxonomies developed in this research follow the conventions of classification taxonomies (a class and its members). For example, Music Text 2 builds a classification taxonomy of orchestral instruments through chains of lexical strings that run through the text. For example, running through Music Text 2 is a lexical string of performing media, as illustrated in Figure 4.7. The numbers in brackets indicate the clauses in which each lexical item is used.

(1) oboe melody – (2) string part – (3) oboe melody – (5) solo oboe – rich, swelling string - (6) strings – (8) oboe – thin, nasal sound - (9) strings (rich and full sound) – which- (10) brass and cymbals and rest of orchestra – strings - (11) solo oboe – (12) oboe – (13) strings - (15) all instruments - (16) whole orchestra - (18) thin oboe melody- (19) addition of instruments - (21) oboe and clarinets – (22) percussion - cymbal crashes - (23) solo oboe and strings

Figure 4.7: Lexical string related to performing media in Music Text 2

This lexical string builds a classifying taxonomy of orchestral instruments. Three types or families of instruments are mentioned: strings, brass and percussion while one instrument type (woodwind) is implied but elided. These lexical chains enable the construction of the partial taxonomy shown in Figure 4.8. The three dots show that there are possible members of the class other than the ones listed, such as more percussion instruments and more woodwind instruments in addition to the ones listed.

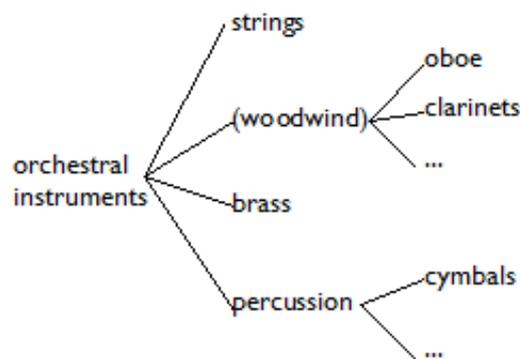


Figure 4.8: Music Text 2 classifying taxonomy of orchestral instruments

Performing media lexical strings are found in all successful answers in the Standards Packages, for all examination questions. This demonstrates that it is very important to describe performing media in every answer. Supporting this finding are markers' comments which state that 'better responses' involved 'accurately identifying performing media' (Board of Studies NSW, 2012a). By analysing Music Texts 1 and 2 in detail, as well as many other answers from the Standards Packages, it has been possible to build a taxonomy of performing media, showing every instrument that students need to be able to identify aurally and to name. This taxonomy is explained and represented in full in Appendix B.

Items in taxonomies of performing media are specialised terms representing concrete, material objects that exist in the world that may be known 'ostensively, by experiencing

them in everyday life' (J. R. Martin, 2013, p. 29). Even though instrument names such as 'viol' and 'lute' (Music Text 1) are uncommon now, in Renaissance times, they were widely known. Whereas in some fields (such as History), technical terms are not necessarily arranged in taxonomies (J. R. Martin, 2013), in Music, they are. Students need to learn the specialised terms for all performing media and furthermore, they need to know the instrument family or type. This is so students can name the family (e.g. 'a bass stringed instrument' in Music Text 1) if they are unable to identify the individual instrument.

A second category of lexical items found in successful Music answers concerns circumstances of *time*, which specify when a particular feature of musical sound occurs. Temporal specification has already been raised as an important way of staging an answer in a description of concepts of music. Specifications of time are also critical when describing music or making a finding. There are four ways time can be expressed in language in a Music examination answer:

1. section names (e.g. Section A)
2. reference to beginning-middle-ending
3. use of conjunctions (e.g. then)
4. reference to a bar (e.g. in Bar 4).

The first way of specifying time is illustrated in Music Text 1, in which the student labels musical sections following the convention of using capital letters and numbers:

A, A1, A2, A3, A4, A5, A6, A7

These section names are used as headings in the answer and provide a staging strategy for the unfolding of meaning in the text. In contrast, Music Text 2 positions musical

events according to a scale of beginning, middle and ending, with a climax implied towards the end of the excerpt. This can be demonstrated in the description of texture made by the student (clauses 18-19).

Texture- Beginning: contrast between thin oboe melody with accompaniment (homophonic) and ending: multi layered climax with many harmonic layers (polyphonic). Texture gradually swells with addition of instruments and depth of harmony to end up very contrasting to the beginning.

In this short section, five references to time (in nominal groups and processes) create a lexical chain of time: beginning – ending – climax – end up – beginning. This chain can be represented as a scale, as shown in Figure 4.9:

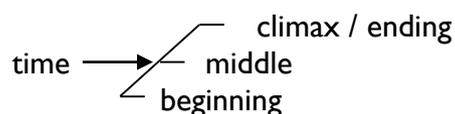


Figure 4.9: Taxonomy of time

The third way of specifying time is through conjunctions (e.g. *then, next*) as in this example from Music Text 2:

Then oboe takes over again with its thin nasal sound with new melodic material.

The final strategy for specifying time is reference to a particular bar or bars, which are sub-divisions of a phrase, as in this example from Music Text 1:

particularly **in the second bar of each phrase**

Successful Music texts analysed in this chapter show the importance of constantly relating events to a time in the music, no matter what the question. Later in this analysis, specifying musical time will be shown to be one of the essential moves in making a point in Music.

4.7.2 System networks of concepts of music and principles of composition

The analysis of lexical strings in successful answers shows that students refer to many features of concepts of music – duration, pitch, dynamics and expressive techniques, tone colour, texture and structure. When developing a way of visually representing these concepts, taxonomies were found to be somewhat restrictive because there were many circumstances when multiple taxonomies are required to describe a concept. For instance, students can write about four different aspects of a melody. Every melody has a register (the quality of a high or low key) and range (from wide to narrow) as well as direction (ascending or descending) and a contour or shape (smooth or jagged). Taxonomies do not accommodate simultaneous features so system networks represent these musical meanings.

Use of system network formalism means that it is possible to decompose meaning options into features, with multiple features combined in simultaneous systems. Features in music systems are realisations of meaning, not meaning options themselves. To explain this distinction, the system networks developed in this research will be compared with those in van Leeuwen's *Speech, music, sound* (1999).

To explain how the semiotic resources of sound realise meanings, van Leeuwen (1999) presents two principles: 'provenance' and 'experiential meaning potential'. Provenance refers to the meaning potential that derives from a sound's cultural, social and historical origin. For example, the use of sitars in 1960s pop music evokes an association with the youth culture's psychedelic experiences in India (van Leeuwen, 1999, p. 210).

Experiential meaning potential relates to 'what we physically have to do to produce a particular sound' (van Leeuwen, 1999, p. 205). Aspects of physicality are associated

with particular contexts and social and cultural situations. For example, the vocal quality of breathiness is used in situations when we speak or whisper quietly, so it is therefore associated with meanings of intimacy or sensuality (van Leeuwen, 1999, p. 133). In *Speech, music, sound* seven system networks are provided: perspective, time, interacting sounds, melody, voice quality and timbre and modality. One of these is melody (reproduced in Figure 4.10), comprises five simultaneous systems, each indicated by a curved bracket. One of these systems will be analysed below: emotive expansion/confinement (in the box).

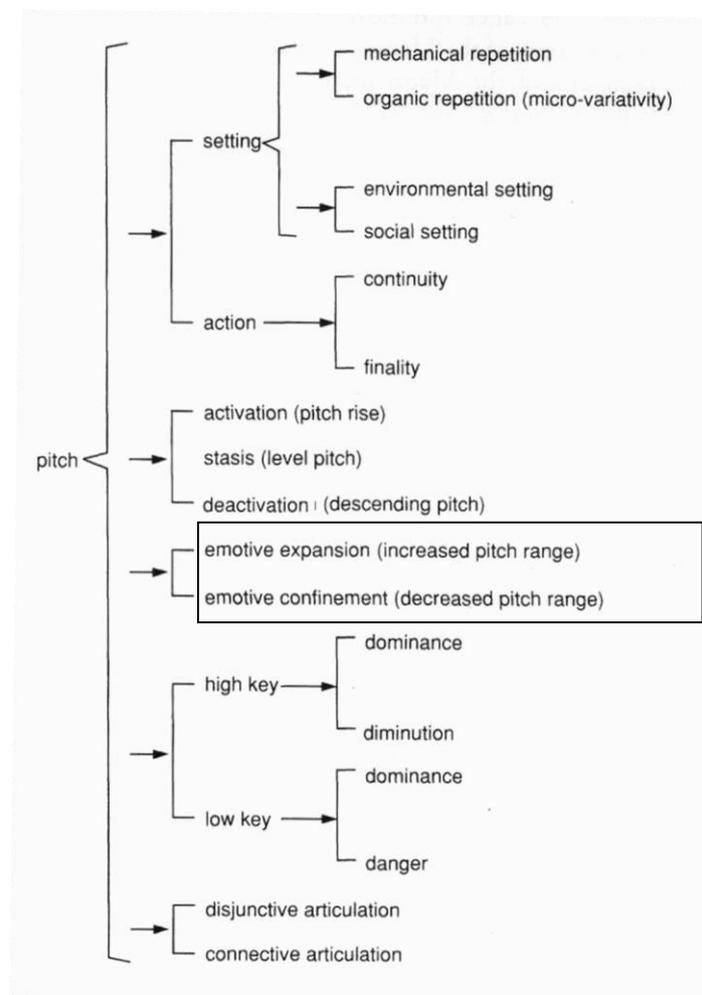


Figure 4.10: van Leeuwen's system networks for melody
Source: (van Leeuwen, 1999, p. 119)

The features in the box show that the system of emotive expansion/confinement relates to melodic range, which means the width between the lowest and highest note in a melody. Increased pitch range, where the interval between the lowest and highest note is wide, embodies a meaning choice of ‘emotive expansion’, such as in the expression of strong feelings, for example, grief, joy and excitement. A decreased pitch range, or a melody with pitches close together, is a choice of ‘emotive confinement’ (van Leeuwen, 1999, p. 109) such as when emotions are either constrained or muted. In contrast, in the Music 1 syllabus, there is no requirement to describe experiential meaning in van Leeuwen’s terms, that is, to interpret musical emotions. In the HSC, students are only required to refer to concepts of music, that is, students simply need to state whether the melody has a wide or narrow range, without further interpretation. For example, the successful answer in Music Text 2 makes the following finding about pitch:

Pitch material – begins with oboe melody in a **narrow pitch range**, low register.

This finding about ‘narrow pitch range’ is simply descriptive, without further interpretation of what it ‘means’. Wide/narrow range is an expression of options that are actualised in the musical excerpt. These can be represented in the system of wide/narrow range shown in Figure 4.11. The oblique line shows that this system is a scale from maximally narrow to maximally wide, with many possibilities between. The capital letters show that the entry condition for the system is the melody, one of the aspects of the concept of pitch.

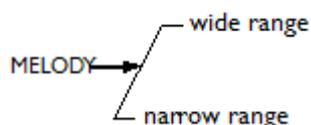


Figure 4.11: System of wide/narrow range

Following this logic, system networks developed in this research reflect the expressive potential of music, not the meaning potential as in van Leeuwen's networks. While the system networks in *Speech, music, sound* were consulted in detail, they were changed substantively due to the way the syllabus arranges the concepts of music and according to the contents of successful students, markers' comments and sample answers.

Therefore, in this research, the field of HSC Music is represented as both system networks and taxonomies of realisations or expressive options. Taxonomies have been retained for the more concrete and material realisations of musical meaning, such as performing media, described above. System networks express options for the six concepts of music and for principles of composition. In order to clarify the relationship between systems and taxonomies, realisation tables have been developed, to show how features in each system are realised, following Painter et al. (2013). Realisations refer to wordings that students can include in their answers or to taxonomies from which they can select wordings. Due to space restrictions in this chapter, the system networks, taxonomies and realisation tables are presented in full in Appendix B.

These system networks are important as they represent aspects of the field of Music in relation to one another. For example, in order to successfully write about a melody, students need to understand that wide/narrow is an opposition and then to justify whether the melody has either a narrow or wide range in terms of the musical excerpt. The features 'wide' and 'narrow' range signify in relation to each other. This is in stark contrast to the syllabus dot points where relations between and within concepts are not clearly shown. The potential applications and implications of these system networks and taxonomies will be explored further in the discussion section of this chapter.

The syllabus refers to ‘unity, contrast, interest and style’ in the overview of the course but does not explain or categorise these in any way. To address this gap, this research has developed a system network of principles of composition. Nearly half of the examination questions from 2001-2013 relate to principles of composition. The most common question related to principles of composition requires the students to write about ‘interest’ in the music (with 5 questions), followed by ‘contrast’ (4), ‘variety’ (3), ‘unity’ (2), ‘repetition’ (2), ‘climax’ (2) and ‘tension’ (1). Principles of composition are not the same as concepts of music and their relation to the concepts is not clear in the syllabus. Two simultaneous choices are possible for describing the effect or compositional intention of music: similarity or difference and a scale of tension, from no tension to a climax, as shown in Figure 4.12:

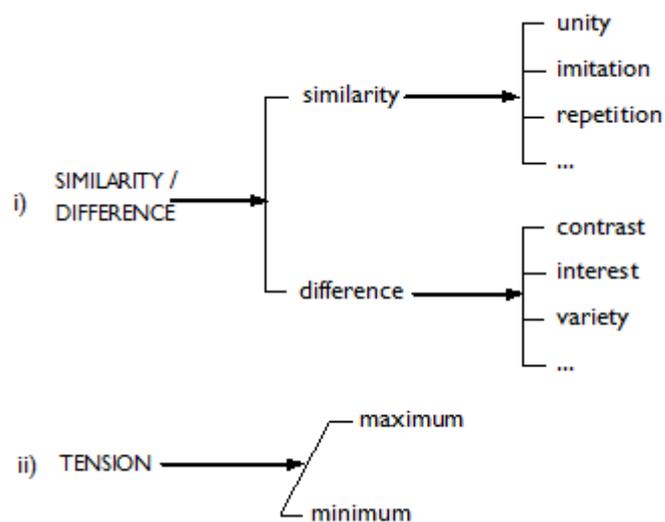


Figure 4.12: System networks of principles of composition

In answers to questions about principles of composition, a lexical item related to a principle (e.g. contrast) is usually repeated several times. For example, Music Text 2 mentions ‘contrast’ seven times. What is more surprising is that principles of composition are mentioned by successful writers even if the question does not require it.

Music Text 1 refers to principles of unity and contrast, even though the question is about structure, for example:

Repetition of melody provides **unity**. (clause 4)

Bass is provided by pizzicato strings. This provides **contrast** with previous bass arco bowing. (clauses 16-17)

This analysis has shown that principles of composition are significant entities in disciplinary writing, so they are included in making a point in Music.

4.7.3 Making a point in Music

In Music, making a point can occur at the clause level or in a clause complex. Making a point has two mandatory functional stages ('time' and 'finding') and one optional stage ('principle').

The first functional stage when making a point is to make a specific reference to musical time. This can take the form of any of the four strategies described above: a section name, a bar number, referring to beginning-middle-ending, or by using a conjunction of time. The 'time' move can occur anywhere in a point. In the following example, there are two references to time, one in a heading (A2) and one in a circumstance of time (as a preposition phrase).

A2

Melody line is more ornamented, particularly **in the second bar of each phrase**.

The other mandatory stage when making a point consists of a 'finding' the student has made while listening to the music. A finding relates to performing media and/or a concept of music. In this example, the finding involves two features of pitch, 'melody

line’ and ‘more ornamented’. The stages in the point can be represented as shown in Table 4.16:

Table 4.16: Making a point in Music: pitch

Music Text 1	Functional stage
A2	Time
melody line is more ornamented	Finding (Concepts of music)
particularly in the second bar of each phrase	Time

A finding can also involve performing media as well as a concept of music, as shown in another example from Music Text 1 where the ‘recorder’ has the agentive role of creating a ‘melody’, as shown in Table 4.17.

Table 4.17: Making a point in Music: performing media in agentive role

Music Text 1	Functional stage
A1	Time
recorder performs melody	Finding (Performing media and Concepts of music)

Music Texts 1 and 2 both feature dozens of points at the level of the clause. In fact, successful answers are found to contain more than 15 accurate findings about the musical excerpt. This type of functional stage can also be found in longer segments of writing, as in the paragraph from Music Text 2 below, presented in Table 4.18. This is an example of how making a point in Music can involve logico-semantic connections that are explicitly made through conjunctions of time. The student’s abbreviation ‘Ex. Techniques’ means Expressive Techniques.

Dynamics/Ex. Techniques – mostly dynamics are quite soft in opening, but then swell hugely as all instruments play more loudly. Then volume dies back down

to moderate for a while, then to very loud with whole orchestra for ending. This is directly contrasting to softness at beginning. (clauses 15-17)

Table 4.18: Making a point in Music: Functional stages in a paragraph in Music Text 2

Music Text 2	Functional stage
mostly dynamics are quite soft	Finding
in opening	Time
(but)	-
Then	Time
swell hugely as all instruments play more loudly	Finding
Then	Time
volume dies back down to moderate	Finding
for a while	Time
Then	Time
to very loud with whole orchestra	Finding
for ending	Time
This is directly contrasting to softness at beginning.	Principle (contrast)

The final stage of this paragraph involves the third optional stage of making a point. As discussed above, successful Music answers often refer to principles of composition, even if the question does not direct the student to do so. Including principle of composition as an optional stage of a point may be a useful reminder to students to refer to this aspect of musical meaning in their answers.

The Time^Finding stages can be found in all successful Music examination answers and the Time^Finding ^Principle stages are found in many of them. Answers from the other two HSC questions from 2002 will demonstrate this. In an answer to Question 2, displayed in Table 4.19, a student uses the stages in reverse order with principles of composition first (referring to tension and climax), even though the question is about how the performing media are used.

The brass instruments are used to create a sense of tension and climax, punctuating the rhythm through a series of staccato notes at the end of each phrase within the verse section.

Table 4.19: Making a point in Music: 2002 HSC Question 2 exemplar

HSC 2002 Question 2 exemplar	Functional stage
The brass instruments are used to create a sense of tension and climax	Principle of composition (and performing media)
punctuating the rhythm through a series of staccato notes	Finding (duration)
at the end of each phrase within the verse section	Time

The next answer to be explored is an answer to HSC Question 4 in 2002. This answer makes a point in each of three clauses, as shown in Table 4.20.

Sometimes in beginning dipping down to extremely low notes in low register
Medium range is used during mid section of song

Last section she (the vocalist) accesses highest register.

Table 4.20: Making a point in Music: 2002 HSC Question 4 exemplar

HSC 2002 Question 4 exemplar	Functional stage
Sometimes in beginning	Time
dipping down to extremely low notes in low register	Finding
Medium range is used	Finding
during mid section of song	Time
Last section	Time
she accesses highest register	Finding

The functional stages of Time^Finding^(Principle) represent a disciplinary specific way of building meaning in Music, answering the guiding questions about the content of the answer and what ideas are expressed, as well as indicating how ideas are connected.

These stages are flexible meaning-making resources as they can appear in any order and

there is a variety of language strategies that can be used to create each stage. Making a point in Music is one of the main teaching points in the new lessons described in Chapter 6.

4.8 Interpersonal meaning

While the bulk of this chapter has focused on experiential and logical meaning, there are still some important ideas to be raised about interpersonal meaning. The final guiding question for this analysis is:

How does the text interact with others?

Interpersonal meaning resources explore how relationships between people are construed, such as between the author and reader and between people in a text.

A brief analysis of evaluative language in Business Studies and Music reveals several important features of disciplinary writing in these subjects. Firstly, successful writers in both subjects construct themselves as sole authorities, with no referencing or attributions to others or even to the syllabus. Occasionally in Business Studies, a representative of a case study company may be quoted, but this is rare and the student writer is still the authority. In terms of the engagement system (J. R. Martin & White, 2005), this kind of writing can be described as monoglossic, with little discursive space for voices other than the author's.

The second important point is that neither subject deploys highly evaluative language. Affect, or language that describes emotions or feelings (J. R. Martin & Rose, 2007, p. 25), for example, tends not to be deployed in successful answers at all. In Music, as discussed above in relation to system networks, students are required to provide an emotionally neutral description with no personal responses, interpretations or

evaluations. Markers' comments for Music from 2012 noted that low achieving answers 'gave personal opinions rather than discussed concepts ... or used emotive language and made value judgements at the expense of musical analysis' (Board of Studies NSW, 2012a). For example, in an answer graded at the lowest mark band, a student states that the music sounds 'very professional and artistic' (2002 HSC Question 3 Band 1/2 Sample 2). Instead of making evaluations like this, students should refer only to principles of composition, an interpretive 'rule of the game' which is not mentioned in the syllabus. As this feature of disciplinary writing in Music has now been identified, many students may benefit from learning explicitly about how to interpret music using principles of composition.

Appreciation involves how 'things' are evaluated (J. R. Martin & White, 2005). In successful Business Studies writing, there is implied positive appreciation of profitability yet there are few references to profit in the syllabus. This makes profitability a hidden aspect of the syllabus. The closest the syllabus comes to a direct reference to profit is the dot point that students will learn about 'the function of business in creating value/benefits and adding value to all the business processes (value chain)' (Board of Studies NSW, 2009b, p. 13), as well as references in other dot points to 'business success and failure' (Board of Studies NSW, 2009b, p. 19). Other business responsibilities seem to receive more emphasis in the syllabus, including social, ethical and environmental responsibilities. Perhaps the syllabus is suggesting implicitly a value system whereby financial motives are less worthy than other objectives for business activities. Whatever the reason, by minimising the role of profits, the syllabus seems to be hiding the main purpose of business. To address this disparity, this thesis follows the lead of successful students to try to make profitability a more explicit feature of the discourse of Business Studies.

4.9 Discussion

Analysis of official documents and successful HSC writing in Business Studies and Music has yielded insights into similarities and differences between these subjects. In order to synthesise the results of the discourse analysis, a research map was developed to summarise the main features of disciplinary writing in the HSC exam for Business Studies and Music. The research map presented in Table 4.21, will become the basis of the intervention stage of the research.

Table 4.21: Research map of disciplinary linguistic features in Business Studies and Music

		Business Studies	Music
Genre of the question		2-part questions are common; each part needs a separate answer: common directive terms are discuss, explain	Questions about one, two or all concepts of music, performing media or principles of composition
Genre and staging		Explanation (factorial and consequential) Phenomenon to be explained ^ Explanation	Musical description 2 variants of staging: 1. description of concepts of music 2. sections
Textual meaning	Theme	Headings: syllabus points (word for word) macroTheme in Introduction hyperThemes in topic sentences	Headings: 1. concepts of music or 2. sections
Experiential meaning	Lexical chains	1. business 2. case study companies 3. growth/expansion 4. profit/cost	1. performing media 2. concepts of music 3. principles of composition 4. time
	Types of entities - technicality, abstraction, specialised language, grammatical metaphor	technicality – use of classifiers grammatical metaphor prepackaged from syllabus points	specialised language (performing media) technicality – use of classifiers grammatical metaphor (abstraction)
	Nuclear relations	business as agent medium is process of growing/expanding nuclear is profits/costs peripheral – location of business activities	performing media as agent central is process or member of class medium is concept of music or performing media peripheral – time
	Activity sequences	implication sequence: purpose of business is to make profits	event focused activity sequences and entity focused activity sequence
Logico-semantic meaning	Taxis	hypotaxis enhancement	clause simplex and parataxis
	Conjunction	addition consequence purpose consequence cause	succession (time sequence) addition
	Expansion	elaboration and enhancement	elaboration
Interpersonal meaning	Mood, modality, appraisal	Positive appreciation of profits and success; negative appreciation of costs; some high modality	Evaluatively neutral; mild positive appreciation of principles of composition
Summary – making a point		Syllabus point Elaboration Purpose (to make profit) Case study exemplification of syllabus point Elaboration Purpose (to make profit)	Time Finding (performing media = create = concept of music) Principle of composition

By identifying the features of disciplinary writing in Business Studies and Music, as laid out in the research map, it has been possible to identify some aspects of the hidden curriculum of each subject. The discussion that follows reviews the linguistic patterns that illuminate patterns of disciplinary knowledge. The implications of this analysis for understanding of the curriculum in each subject will also be explored, first for Business Studies, followed by Music.

BUSINESS STUDIES

In Business Studies, successful writing construes knowledge about business theory and case studies as parallel implication sequences with profits as the motive for business activities. This understanding can help teachers and students to recognise links between syllabus topics and the four knowledge objectives of the syllabus. The four knowledge objectives of the syllabus are:

1. the nature, role and structure of business
2. the functions, processes and operations of business
3. the nature, role, responsibilities and effectiveness of management
4. the impact of internal and external factors on business

(Board of Studies NSW, 2009b, p. 8)

These aspects of the syllabus can be represented as a diagram, following Wignell, et al. (1993), as represented in Figure 4.13, in which arrows show cause and effect relationships. At the top of the diagram is the structure of a business itself and its actions and activities which represents knowledge objectives 1 and 2. Business activities have effects, leading to a series of outcomes (financial, economic, social and environmental) but the most important outcome is profitability. These outcomes, the combination of which represents success or failure, relate to knowledge objectives 2 and 3. These outcomes of business are part of the economic and business environment and, in turn, influence other businesses. The third box in the diagram represents external influences on a business (such as government regulation or technology changes) and

internal influences (such as business restructuring or changes in management), covering knowledge objective 4. These influences then impact on the structure and actions of businesses and so the cycle continues.

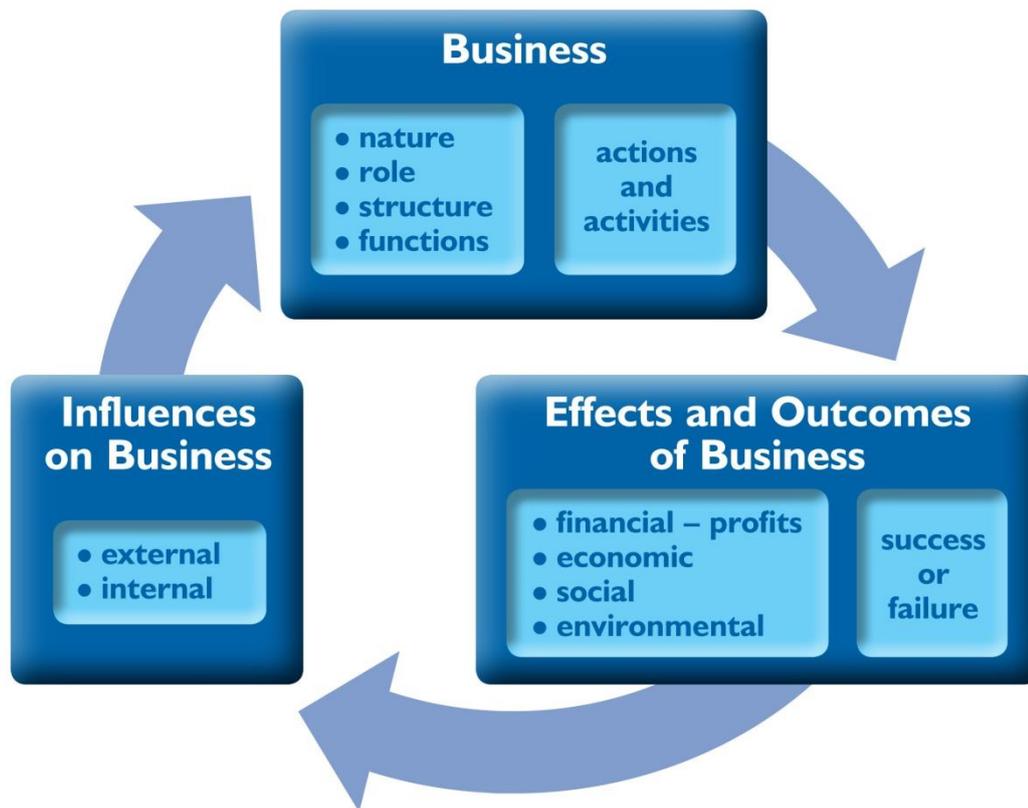


Figure 4.13: Representation of the Business Studies syllabus as an implication sequence

This diagram may be useful for teachers and students to show how knowledge in Business Studies is constructed through cause and effect relationships and these can be written about in implication sequences in HSC answers. In this way, disciplinary literacies can be revealed as patterns within patterns. Patterns of implication sequences at the paragraph level construct the genre pattern of explanation, which in turn contributes to an overall implication sequence pattern of syllabus topics. By understanding patterns at the level of a paragraph and of genre, it is possible to see patterns in the syllabus and in the knowledge structure of Business Studies as a whole.

MUSIC

Relationships between aspects of the Music syllabus have also been revealed in this analysis. To explain these relationships, a diagram has been developed to represent relations between performing media, concepts of music and principles of composition, shown in Figure 4.14. Each of these aspects has been placed into one of two domains: the domain of performance or the domain of composition. The domain of performance concerns the physical sound and its creation, whereas the domain of composition is more abstract and involves how the composer's intent is realised, through the organisation of sounds for an overall purpose.

In the domain of performance, performing media play or sing, represented in the diagram by a speech bubble to show that they generate or project the musical sound. Four of the concepts of music are physical properties of sound: duration, pitch, tone colour and dynamics. These properties can be measured as the properties of duration, frequency, amplitude and intensity. Dynamics and expressive techniques are conflated in the syllabus as one concept of music; however, they are quite different. Dynamics or volume is a physical property of sound, whereas expressive techniques refer to *how* the performer plays the instrument or sings to create musical artistry. Consequently, expressive techniques act as a kind of filter between the instrument/voice and the physical properties of the sound, represented as wavy lines in the diagram.

The lower part of the diagram represents the domain of composition. Structure and texture (the arrangement of layers of sound) concern how sound is organised, so they have been placed in the domain of composition. Principles of composition, such as unity and contrast, describe the overall configuration of all musical sounds from both

domains, so they have also been placed in the domain of composition box.

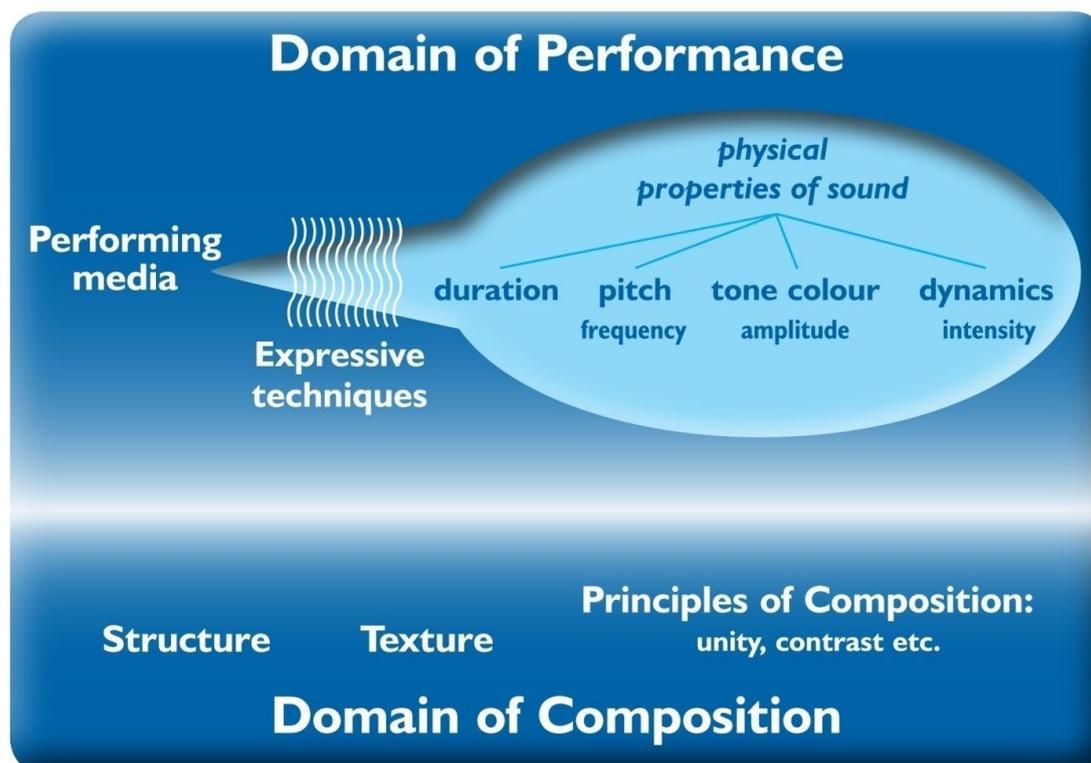


Figure 4.14: Representation of aspects of the syllabus for Music

This diagram may help students understand how to relate aspects of the concepts of music as they learn about them. This diagram also reminds students that every piece of music can be described in terms of all the concepts as well as in terms of performing media and principles of composition. Although this diagram may seem complex, it is at least an attempt to provide a heuristic for the curriculum as a whole and to show relations between the currently unrelated dot points in the syllabus.

Some explanatory points are also required in relation to the system networks of concepts of music, introduced in Section 4.7.2, and these are presented in full in Appendix B. There are four main advantages for developing system networks and taxonomies as tools for thinking about and evaluating performing media, concepts of music and principles of composition.

Firstly, a comparison of system networks reveals that not all concepts are equal. Some concepts are more complex, for example, pitch and duration, while others are simpler, for example, dynamics. As a consequence, pitch and duration consist of several systems and taxonomies, while dynamics has less complex systems. In the syllabus, the dot points represent all of the concepts as somehow equivalent or equal, whereas this analysis shows that successful answers include more descriptions of some concepts than others. More pedagogic attention, therefore, needs to be paid to the 'big' concepts, as there is more knowledge to be built in these areas.

The second contribution of the systems and taxonomies is that they represent the field of Music explicitly and in detail. The array of material in the system networks, realisation tables and taxonomies can seem quite daunting, and, thus, represent visually the scale of the task facing secondary Music students as they strive to master the discipline of Music. This array also maps, for the first time, the exact requirements of disciplinary writing in Music. When compared with the syllabus dot points, this array makes clear that much of the curriculum of music is hidden. As these system networks and taxonomies have been built from instances of successful music examination texts, they represent in a diagrammatic and comprehensive way the exact knowledge required for successful answers.

In addition, relations between concepts of music are clearly shown in the array, thus clarifying syllabus overlaps and 'grey areas'. Each feature in a concept of music is described and explained in the taxonomies, which provide clear links to possible realisations in taxonomies. Where there are overlaps between concepts, such as 'combinations of performing media' in texture and 'sound sources' in tone colour, these are explicitly stated. Performing media and principles of composition have their own

independent system networks, highlighting their importance to successful answers and, thus, further uncovering the hidden curriculum,

Finally, these system networks can be used as a pedagogic tool. They can be used by teachers as a framework for planning and sequencing the teaching of the concepts of music. In understanding this framework and its contents as a final destination for learning in senior secondary schooling, teachers can potentially develop a spiral curriculum that gradually builds cumulative understanding of musical meanings through the year levels, from Year 7-12 in secondary schooling and ultimately in earlier years as well. For Year 12 students, these systems can be used as practical tools in creating an HSC examination answers. When writing an examination answer about the concepts of music, students can select one feature from each system, as realised in the musical excerpt, so they know what they should be listening for and then writing about in their answer. For example, for pitch, students can write about register, range, direction and contour by selecting one option from each system and specifying these further through reference to the taxonomies of types of melodies and so on.

4.10 Conclusion

This chapter has shown how close analysis of language using the resources of SFL enables many insights into disciplinary literacies. From a practical perspective, the exact requirements of HSC answers have been revealed, as summarised in the research map in Table 4.21. This analysis has culminated in a description of distinctive ways of making a point: the parallel implication sequences in Business Studies and the Time^Finding^Principle sequence in Music. By sharing these results with teachers and students, it is hoped that they ‘can begin to recognize the patterns through which the content is constructed in language’ (Schleppegrell & de Oliveira, 2006, p. 256). This

means that the ways of thinking behind the disciplines are also more accessible, along with the disciplinary ways of writing.

In addition to language, in the HSC Music answers that achieve high marks, students deploy a range of traditional and graphic notation, diagrams, graphs and tables. This thesis will now turn to this next aspect of disciplinary literacies in Music – the use of images.

CHAPTER 5: The interpretive potential of musical images

5.1 Introduction

While the previous chapter identified a range of disciplinary features found in successful HSC Music answers, one aspect was not explored in detail – the use of images in these answers. In the HSC Music examination, students are required to listen to excerpts of music they have never heard before and create answers that show their knowledge of the concepts of music. This semiotic challenge involves two modalities, (auditory and visual) and three semiotic resources (musical sound, written language and image).

A variety of images are deployed in successful Music answers including traditional and non-traditional music notation, diagrams, tables and graphs yet these images have not yet been classified or described. No rules or guidelines exist in the syllabus or in HSC Music textbooks, and many of the images found in successful examination answers do not even have commonly agreed names. In order to gain a full perspective on disciplinary literacies in Music, images will be explored as another aspect of the ‘hidden curriculum’.

Little is known about the semantic value of images in Music answers and whether they are worthwhile resources for constructing successful answers about concepts of music. Teachers have varying opinions on the value of images and whether students should include them in their examination answers. The two Music teachers participating in this

research have differing opinions on the utility of images. Natalie explicitly encourages her students to use images:

The drawing thing. I think that's really valuable. (*Natalie, Interview 1*)

On the other hand, Dianne considers that students would be better off sticking to language alone in their answers:

I struggle with, what can I get them to draw... I don't really know if I want them to waste time on it. (*Dianne, Interview 1*)

As there are no official guidelines for the use of images, it is up to Natalie and Dianne to decide whether or not to teach them. A principled analysis of images could provide useful professional input for teachers who are 'struggling' to understand the meaning potential of images and who are making their own evaluations about the value of using images in HSC answers in isolation. In addition, analysis of images may contribute to knowledge of multimodal semiotics and the disciplinary literacies of Music.

The first section of this chapter reviews literature about graphic notation and visual representations of music. Following this overview, theories of Systemic Functional Multimodal Discourse Analysis (SF-MDA) will be explained in order to provide a framework for analysis of images found in HSC examination answers.

5.1.1 Graphic notation of music for performance and listening

The discipline of Music has a long tradition of representing musical sounds visually. In Western music, a symbol system for music has developed over centuries to become a standard that has changed little since the seventeenth century. Traditional notation adheres to conventions of 'a two-dimensional space with pitch on the vertical axis and time on the horizontal axis. Sets of five horizontal parallel lines provide a reference for

determining pitch and vertical lines mark out divisions of time' (Berry & Wyse, 2011, p. 78). Affordances of traditional music notation are well documented, including the representation of pitch and time 'as stable, measurable properties' (Bamberger, 2005, p. 145), alongside the capacity to represent speed, dynamics (loud and soft) and phrasing (J. L. Martin, 2012; Stone, 1980; Tarasti, 2002). Alternatives to traditional notation have developed in different contexts, including for different instruments (e.g. guitar tab) and for particular genres of music (e.g. jazz charts). Another form of notation relevant to this research is known as graphic notation.

Graphic notation refers to scores with pictorial elements as opposed to traditional notation that arranges notes on a staff (Stone, 1980). Graphic notation emerged in the early twentieth century, associated with experimental, *avant garde* and computerised music, using diverse coloured and black and white visual elements including cartoons, photographs, geometric shapes, text instructions, numbers, elements of traditional musical notation and even three-dimensional objects (e.g. Sauer, 2009). Graphic notation offers the potential to overcome limitations of traditional notation, as 'many dimensions of musical meaning ... cannot be captured in the notational artefact' (Barrett, 2005, p. 121), particularly in terms of tone colour (sound quality), expressive techniques (how an instrument is played) or subtle gradations of dynamics and rhythmic variations, as well as rhythmic or tonal aspects of non-Western musical traditions (Tagg, 2013, pp. 122-123).

The range of graphic notations in a recent collection, *Notations 21* (Sauer, 2009), shows some similarities to images found in HSC examination answers, including the use of curved lines to indicate pitches, various shapes and symbols to depict rhythm and the entry of performers shown by horizontal lines across the page. Nevertheless, one

particular image found in HSC examination answers, a table containing ticks, was not found in this collection. In contrast to the wide range of visual images that represent musical sound in *Notations 21*, HSC students utilise a more limited range of visual possibilities to express features of music in their examination answers and the purpose of these images is different from graphic scores intended for performance.

The images under scrutiny in this research are not used for performance or composition purposes. The graphic notations in *Notations 21* are a ‘conduit of communication between composer and performer’ (Bamberger, 2005, p. 145). Graphic notation can, however, also be used for listening, to demonstrate aural discrimination and interpretation. For this purpose, graphic notation has a major advantage for students of Music in that it is easier to learn than traditional notation. Reading simple traditional notation for performance is relatively easy but transcribing notation while listening is far more difficult and is usually only undertaken by expert musicians with extensive aural training. Even undergraduate Music students struggle with aural notation, especially preservice Music teachers (e.g. Jeanneret, Leong & Rosevear, 2001). Students who study Music 1 for the HSC examination tend not to have experience with musical theory. For this reason, non-traditional and graphic notations are more viable as interpretive resources than traditional notation.

Research in the interpretive use of graphic or ‘invented’ notation by listeners rather than performers or composers has found that basic acoustic properties of sound tend to be represented in generic ways. High and low placement on the page represents high and low pitches, dynamics (soft and loud) are associated with size, duration or rhythm are associated with horizontal placement and tone colour (sound quality) with patterns (Bamberger, 1995; Reybrouck, Verschaffel & Lauwerier, 2009; Sadek, 1987; Walker,

1987). More sophisticated drawings or notations show a one-to-one correspondence between graphic elements and sound. For example, three notes could be represented by three pictures. This one-to-one correspondence relates to ‘differentiation’ (Reybrouck et al., 2009) or ‘metric’ drawings (Bamberger, 1995), where the temporal unfolding of the music is represented graphically.

Much research in graphic notation in education involves young children and focuses on notation as a means to demonstrate cognitive development. Many studies concentrate on the development of music perception from a cognitive standpoint, focusing on what notation shows about a child’s aural discrimination and thinking skills (Bamberger, 1995; Barrett, 2005; Gromko, 1994). A common underlying assumption in these studies is that graphic notation is a precursor to traditional notation and that invented notation helps ‘children to gradually and actively build up conventional formal notations out of their more intuitive and informal ways of representing music’ (Reybrouck et al., 2009, p. 206). In contrast, the current research focuses on a corpus of images used for interpretive purposes by 17-year-old Music students at what may be the pinnacle of their musical careers.

Little guidance is provided in the Music syllabus for how to use graphic notation or other images to represent and construct musical knowledge in the HSC examination. The syllabus mentions that ‘methods of notating pitch, both traditional and graphic’ (Board of Studies NSW, 2009d, p. 17) are part of the content knowledge of the subject, but no examples are provided. Instead, the syllabus for Years 7 to 10 provides lists of traditional rhythmic notations (i.e. notes and time signatures, etc.) which are to be taught (Board of Studies NSW, 2003e, p. 26). Graphic notation is not mentioned at all in assessment support documents for the HSC but markers’ comments often include

references to graphic notation as a characteristic of ‘better responses’, as in this excerpt from markers’ comments in 2012:

In better responses candidates:

- provided ... accurate descriptions, musical notation or labelled graphic notation (Question 1)
- made use of accurate and representative graphic notation (Question 2)
- referred to the music by detailed description and/or annotated diagrams (Question 3)
- supported their explanation with appropriately labelled diagrams/rhythmic notation (Question 4).

(Board of Studies NSW, 2012a, pp. 5-6)

Markers’ comments also supplied information on features of weaker responses, where students ‘used diagrams that were irrelevant and not clearly referenced to the music’ and ‘provided ... meaningless or unlabelled diagrams’ (Board of Studies NSW, 2012d, pp. 5-6). Explicit description of graphic notation is not provided, however, nor is there any guidance on how to ‘support’ an answer through images. As a consequence, use of images is part of the hidden curriculum of HSC Music.

In summary, research into traditional notation has focused on techniques for communicating musical ideas from composer to performer, while research into non-traditional notation has been oriented to psychological development especially in young children, as well as notation as an indicator of musical aptitude and talent. In contrast, images in this research context have a more clearly defined purpose: to represent features of concepts of music in a high stakes examination in the final year of secondary schooling. In order to analyse ways in which images fulfil this purpose in an examination answer, independently and together with verbiage, analytical strategies based on SF-MDA will be utilised.

5.1.2 The semiotic task for Music students

As explained in Chapter 4, successful answers by students of Music represent a constrained meaning potential of what can be ‘meant’ about music. As the syllabus specifies that students can only refer to concepts of music or principles of composition in their answers, it is not required for students to express the emotive or social potential of Music. To summarise the semiotic and disciplinary context of this research, students listen to a musical excerpt that realises certain choices or aspects of the total meaning potential of music. They then create an examination answer which refers to these meaning choices, in terms of the constrained meaning potential of concepts of music and directed by an examination question about one or more concepts (e.g. pitch or pitch and duration) or about a principle of composition (e.g. unity or contrast). Answers use the semiotic resource of language, expressed in verbiage, and some students also use images – graphic notation and diagrams, tables and graphs. This research aims to describe how successful students refer to features of concepts of music in each semiotic, and so to gain insights into ways that students can demonstrate their aural discrimination most effectively in the HSC Music examination – using language, image or both. Firstly, a typology of musical images is proposed, followed by an exploration of intersemiosis, meanings made by language and image together.

5.2 Typology of musical images

Based on the methodology described in Section 3.4.3, a typology of musical images is proposed, based on the visual grammar in *Reading Images* (Kress & van Leeuwen, 2006). One interesting challenge of classifying and sorting images is that many do not have commonly used names, so, as part of this project, names have been developed. Seven types of images, shown in Table 5.1, have been identified in the Standards

Packages corpus of successful work samples and each will be categorised and described in the following analysis.

Table 5.1: Number and type of images in high achieving HSC Music examination answers

Image	Number of high performing texts which featured each type of image
Pitch contour	4
Rhythm notation	4
Texture score	3
Structure and performing media table	3
Structure diagram	2
Graphic notation of performing media	2
Dynamics graph	1

These seven images were grouped into four types: traditional notation variants, graphic notation, tables and graphs. Each image type will be described briefly here with detailed analysis of instances of individual images in Section 5.3. As a preview, each of the images and the four types are presented in the typology in Figure 5.1:

Example 1

Example 2

Traditional notation variants

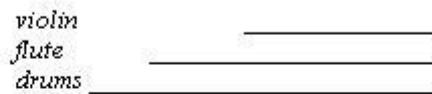
1.
pitch contour



2.
rhythm notation

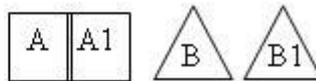


3.
texture score



Graphic notation

4.
structure diagram



5.
graphic notation
of performing
media



Tables

6.
structure and
performing
media table

	<i>flute</i>	<i>violin</i>	<i>drums</i>
<i>Section A</i>	✓		✓
<i>Section B</i>	✓	✓	
<i>Section C</i>		✓	✓

Graphs

7.
dynamics graph

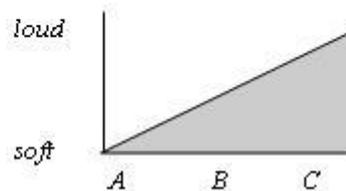


Figure 5.1: Typology of musical images

Traditional notation variants

The first three images, pitch contour, rhythm notation and texture score, have been included in the same category because they are each related to traditional music notation. They are simplified versions of a traditional score and follow some of the conventions of traditional notation. However, the five line staff is missing and exact pitches are not specified.

Image 1, a pitch contour (sometimes called a melodic contour), maintains the overall shape of a melodic line in traditional notation, but without exact pitches or rhythm.

‘Pitch contour’ is a term commonly used by Music teachers and students although it is not mentioned in the syllabus. In a pitch contour, pitches are drawn as a series of dots, such as note heads without stems (example 1) or as a curved line (example 2). Pitch contours are narrative structures, with contour lines creating non-transactional vectors, lines that are not directed at or towards anything (Kress & van Leeuwen, 2006, p. 63) and drawing the eye from left to right as time unfolds. Lyrics are sometimes included if the excerpt is a song, with syllables placed under the dots or line.

The second image, rhythm notation, includes traditional rhythm notation (example 1) as well as more reduced versions without musical symbolism (example 2). This research focuses on non-traditional rhythm notation as it is most common among student answers. This form of notation tends to use numbers or upright lines to represent beats, and sometimes features bar lines to divide musical time into equal measures. Spatial placement on the page represents musical time, with equal spacing representing equal duration (Sadek, 1987; Walker, 1987). Non-traditional rhythm notation has a ‘spatio-temporal analytical structure’ (Kress & van Leeuwen, 2006, p. 101), such as a timeline, representing groups of events as ‘successive stages with fixed and stable characteristics’

(Kress & van Leeuwen, 2006, p. 94). For example, in example 2, the circles around the numbers can be seen as differentiated beats that can be analysed in isolation from the other aspects of the notation.

The third image, called a texture score in this research, has not previously been named even though it is commonly found in examination answers. A texture score seems to be a simplified version of a full orchestral score where individual instrumental or vocal parts are simplified. Typically, performing media are listed near the *y* axis and musical time unfolds from left to right along the *x* axis, with straight horizontal lines representing the music. Texture scores are narrative structures with both temporal and spatial qualities. Lines create non-transactional vectors which draw the eye from left to right horizontally as the music proceeds in time. Viewed vertically, the lines show the number of layers of musical texture. Similar to pitch contours and non-traditional rhythm notation, language labels are required to specify performing media and musical time. Labels on the *y* axis are the ‘given’ information (Kress & van Leeuwen, 2006, p. 179) which is the departure point for the image. On the right hand side is the ‘new’, lines which specify what each performing medium is playing. The image also provides additional information about duration, showing the location of rests as well as specific entry and exit points for performing media.

Graphic notation

Graphic notation refers to non-traditional notation designed with geometric symbols, shapes, numbers and other pictorial elements. Selection of image components is arbitrary as there are no standards or conventions for graphic notation, other than the convention of ‘reading’ in sequence from left to right. A key or label is required so that features of graphic notation are clear to the examiners who will be marking the answer.

The structure diagram (image 4) is also a spatio-temporal analytical structure as the musical events in each section are condensed into one shape, a rectangle or triangle. Structure diagrams define musical sections through their similarity or difference from other sections, represented through repeated and changing shapes. Section names are labelled using the traditional conventions of letters and numbers (e.g. A, A1).

The graphic notation of performing media (image 5) is an idiosyncratic musical image, made up of a range of geometric shapes and visual elements arranged in sequence from left to right. Depending on the student's design choices, the image is certainly abstract and conceptual but may also be a narrative structure if there are lines involved. A language key is essential in a graphic notation of performing media so the viewer can interpret it. This image will be shown to be one of the least specific and perhaps least useful images for Music students in the HSC examination.

Tables

The third category of images is tables. Most tables found in this research depict aspects of musical structure and performing media. Tables that sort data in columns and rows are common in computer software and are part of the 'new writing' that integrates written text and images and visual elements (van Leeuwen, 2008). Tables are a visual verbal genre (Lemke, 1998) which can be deployed as a component of other genres, such as a descriptive HSC examination answer in this case. Tables are found in a range of disciplines including Mathematics and Science. Lemke (1998, p. 96) calls tables 'textualisable visual displays' as there is usually a 'recoverable textual sentence' for data in each row or column. Tables can be 'spoken around' or commented on and read in any order (van Leeuwen, 2008, p. 132). The temporal component, names of sections of music, can be arranged vertically or horizontally but it is more common for sections

to be placed horizontally as column headings, in keeping with the left to right conventions of musical time. Tables are conceptual analytical structures that represent musical sections as stable entities rather than as a dynamic process of unfolding musical events (Kress & van Leeuwen, 2006, p. 99). Borders in a table are framing devices to separate chunks of information about different concepts of music. Instead of musical symbolism, most music tables use geometrical symbolism such as ticks, as well as verbiage.

A structure and performing media table describes similar concepts to a texture score. The only significant difference is that the table offers additional contingent flexibility for an examination situation as the student can add labels and language during the examination. Several successful answers in the first corpus of student work consisted of a large, detailed table, and little accompanying verbiage, indicating that tables are a useful examination tool for students and they are highly valued by markers.

Graphs

The final image type is a graph which, like the table, is commonly used in other fields including Mathematics, Science and Social Science (Lemke, 1998, p. 102). Graphs consist of two axes which represent two sets of data variables and a line, curved or straight, which shows a pattern of co-variation between these variables. Graphs represent a 'functional relationship between 2 or more participants by means of a curve or surface' (O'Halloran, 1996, p. 163) but unlike mathematical graphs, musical graphs show 'conceptual relations and not actual data' (Lemke, 1998, p. 102). In the dynamics graph, the y axis, although not labelled, implies a gradient of volume from soft at the bottom to loud at the top. The curved line creates a vector, more similar to a narrative

than an analytical structure, with ‘dynamics’ represented as an entity that increases and decreases (Kress & van Leeuwen, 2006, p. 102).

Other general features of musical images

All instances of musical images found in examination answers are represented as objective, factual objects, as if representing incontrovertible truth about music. As in mathematical images, musical images are decontextualised and related to abstract concepts of music so they are interpersonally neutral and distant (O'Halloran, 2005). They are two dimensional and hand drawn from a front-on angle, such as graphs drawn in Mathematics or tables in Science. High modality is reinforced by limited use of colour, usually black or blue pen. Evidence of editing can be seen with scribbled sections, as will be shown in the exploration of instances.

Attention now turns to intersemiosis and the kinds of musical meaning represented by these images.

5.3 Instantiating musical meaning in images

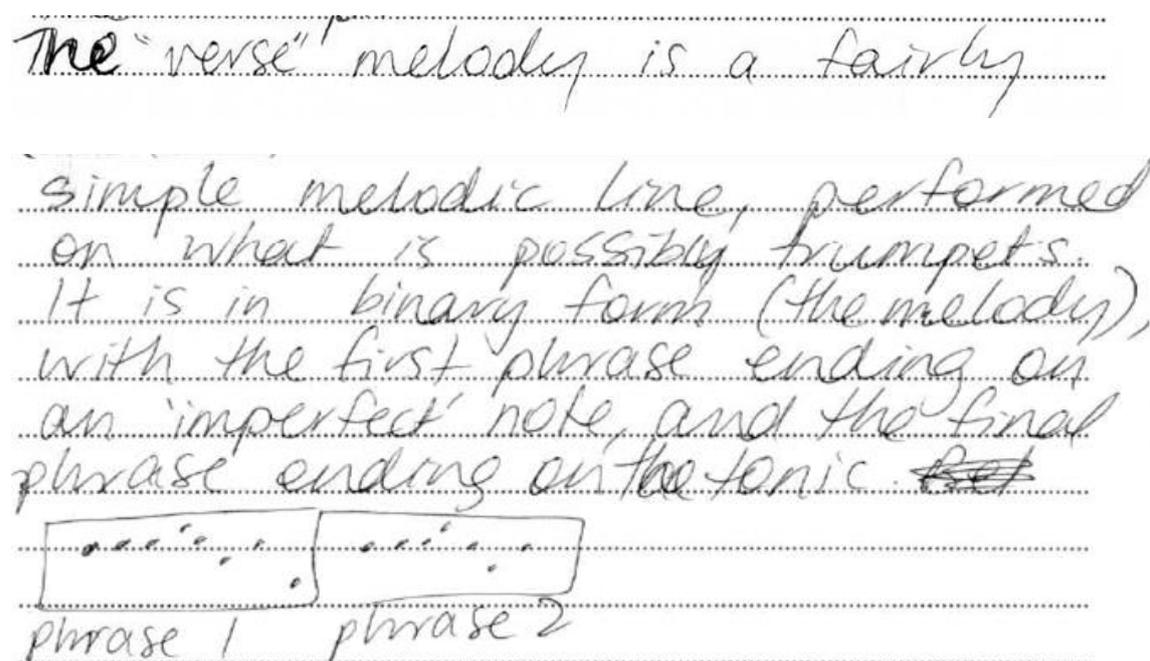
Each musical image in a successful HSC answer, and the inter-relation between the image and the verbiage in the answer, will be evaluated against the criteria for successful answers developed in Chapter 4. Analysis of the language of successful answers revealed that they tend to specify performing media, refer to features of concepts of music, refer to principles of composition and relate every ‘finding’ to a specific time in the music. These features have been arranged in an analytical table in order to synthesise findings and relate them to the system networks of concepts of music and taxonomies developed for this project (see Appendix B).

5.3.1 Pitch contour

The most common images found in successful Music examination answers are pitch contours. Five pitch contours will be analysed, starting with one dotted pitch contour (as in example 1 from the typology in Figure 5.1) and one continuous line contour (example 2). Next, two further pitch contour variations collected from the classrooms participating in the research will be considered, including one unsuccessful contour.

Pitch contour represented as a dot

All of the verbiage related to pitch (the high or low quality of musical sound) taken from a successful answer, along with a pitch contour created with dots to accompany the verbiage, is presented in Figure 5.2:



(*verbiage retyped for clarity*) The ‘verse’ melody is a fairly simple melodic line, performed on what is possibly trumpets. It is in binary form (the melody) with the first phrase ending on an ‘imperfect’ note and the final phrase ending on the tonic.

Figure 5.2: Image and verbiage related to pitch:
Excerpt from 2001 HSC Band 5/6 Question 4 Sample 2

While performing media, ‘trumpets’, are specified in the verbiage, thus meeting the first criterion for successful answers, performing media are not referred to in the image. The verbiage also meets three further criteria for successful answers in relation to the concept of pitch by including the following information: the melody is in two parts or phrases, the first phrase ends on an ‘imperfect note’ and the final phrase ends on the ‘tonic’. In addition, the verbiage specifies musical time, another criterion of successful answers, by noting that the melody occurs in the ‘verse melody’. The verbiage also refers to the fixed tonal centre, ‘tonic’, an aspect of harmony.

The image that accompanies the verbiage in the answer represents the pitch contour. The pitch contour expresses meaning about three simultaneous features from the system network of MELODY: smooth contour, ascending and descending direction, and narrow range. The contour also specifies the exact number of notes in each phrase and which notes are repeated. This relates to features of the system network of PITCH PATTERNS: repetition, variety and contrast between the two phrase endings. In this way, the pitch contour refers to more features of pitch than has been expressed in the verbiage alone.

The relative semantic weight of the pitch contour image and the verbiage can be demonstrated on the system networks of PITCH and PITCH PATTERNS, by underlining aspects expressed in verbiage, and by making bold aspects expressed in the pitch contour. By highlighting and bolding options on the system networks, it is possible to perceive the relative contribution of verbiage and pitch contour to the construction of specialised musical meaning. Aspects of these system networks are based on van Leeuwen’s system network for describing melodies (van Leeuwen, 1999, p. 119).

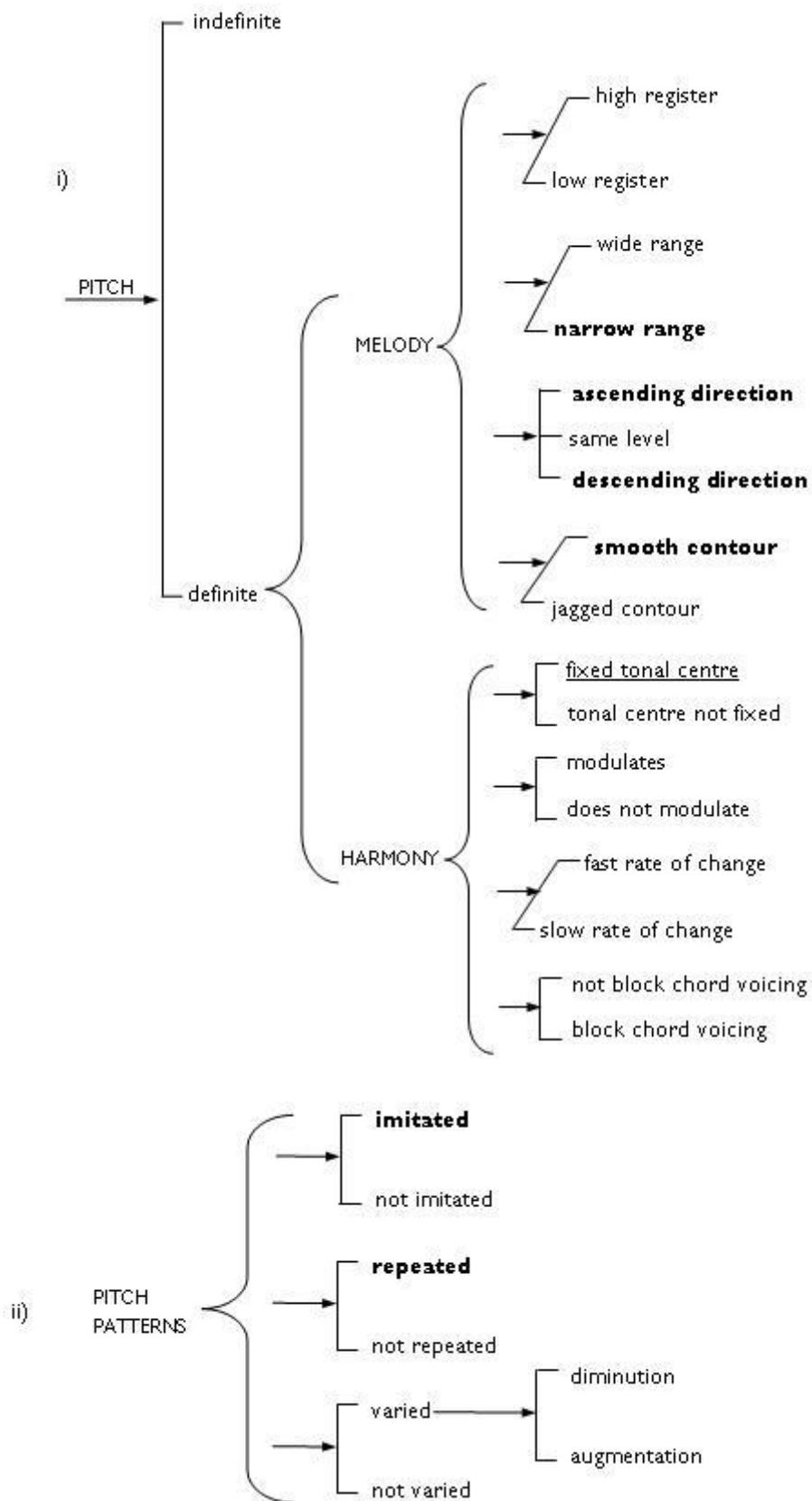


Figure 5.3: System networks of PITCH and PITCH PATTERNS referred to in image and language: Excerpt from 2001 HSC Band 5/6 Question 4 Sample 2

As shown in Figure 5.3, there are more features highlighted in bold rather than underlined, demonstrating that more features of pitch are expressed in the pitch contour than in the verbiage. When creating a dotted pitch contour, a student must represent the exact number of notes (or individual pitches) in a melody and place each note on the page to show relative distance from the others, and any changes from one note to the next. These forced choices are affordances of pitch contours, which automatically and simultaneously realise the meanings of several aspects of pitch: contour, direction, range and sometimes even register, as well as pitch patterns. The one-to-one correspondence between each dot and a musical sound (Reybrouck et al., 2009) makes the pitch contour an effective interpretive tool, enabling the student to demonstrate visually their skill in aural discrimination and their understanding of the concept of pitch as realised in the musical excerpt.

Interestingly, the pitch contour image corrects errors the student has made in verbiage. In the image, the viewer (in this case, the marker) is a co-constructor of musical meaning. As the marker has more extensive knowledge of music than the student does, an image provides potential for the marker to interpret meaning that the student may not even have intended. In this example, the student states that the first phrase ends on an ‘imperfect’ note. This is an incorrect use of terminology. ‘Imperfect’ refers to a type of harmonic progression, an imperfect cadence (from chord I to chord V) and suggests that the student has heard the dominant note (the fifth note of the scale). The shape of the pitch contour helps to explain what the student meant, by showing the pitch direction and a descending interval. Also, in the language, the student has incorrectly called the two phrase pattern ‘binary form’, which actually refers to larger structural sections in a piece, not to phrases. The pitch contour acts to correct and clarify the student’s statement about structure. In this way, the image and language create work to create

‘augmentation’ of musical meaning (Unsworth, 2010, p. 280). It could therefore be suggested that pitch contours not only express musical meaning but clarify and correct meanings made in verbiage.

In addition to meaning related to the concept of pitch, the pitch contour also refers to principles of composition. Boxes drawn around each melody create a ‘framing device’ (Kress & van Leeuwen, 2006, p. 177) which clearly separates the two contours, enabling comparison and contrast of features of similarity (imitation and repetition) and difference (different phrase endings). Frames also give salience to the given-new structure of the two phrases, with the phrase 1 on the left being ‘given’ and phrase 2 on the right being ‘new’, a common pattern in music where the first phrase is a departure point for development in the second phrase (van Leeuwen, 2005, p. 202). These are sometimes called ‘question and answer’ phrases, as indicated in the taxonomies of pitch patterns (see Appendix B). In this way, the pitch contour refers to several aspects of meaning related to a principle of composition as well as to PITCH and PITCH PATTERNS.

Expressions of musical meaning in either verbiage or image are summarised in Table 5.2. Items entered in each column are features and options from the system networks or entities from taxonomies (see Appendix B). Under the heading of ‘image’, wordings in brackets are verbal descriptions of the relevant visual feature. Shaded areas indicate that no meaning is instantiated.

Table 5.2: Expression of aspects of music in verbiage and image:
Excerpt from 2001 HSC Band 5/6 Question 4 Sample 2

Aspect of music	System or taxonomy*	VERBIAGE		IMAGE
		Main text	Label	
Performing media	<i>instruments</i>	‘trumpets’		
Pitch	melody			smooth contour; ascending direction; descending direction; narrow range (spatial placement of dots; <i>intervals of 3rd, 4th</i>)
	harmony	fixed tonal centre: ‘first phrase ends on an imperfect note and the final phrase ends on the tonic’		
	pitch patterns			imitated, repeated: <i>call and response</i> (8 notes in phrase 1; 7 notes in phrase 2)
Structure	<i>movement structures</i>	‘binary form’, ‘verse’		
	<i>section structures</i>		‘phrase 1’ ‘phrase 2’	(two phrases are shown)
Principles of composition	similarity / difference			repetition (initial 7 notes in each phrase are the same); contrast (phrase endings are different); (framing around phrase 1 and phrase 2 emphasises similarity and difference)
Temporal specification		‘first phrase’, ‘final phrase’ ‘verse’	‘phrase 1’ ‘phrase 2’	(left to right unfolding of music in time)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

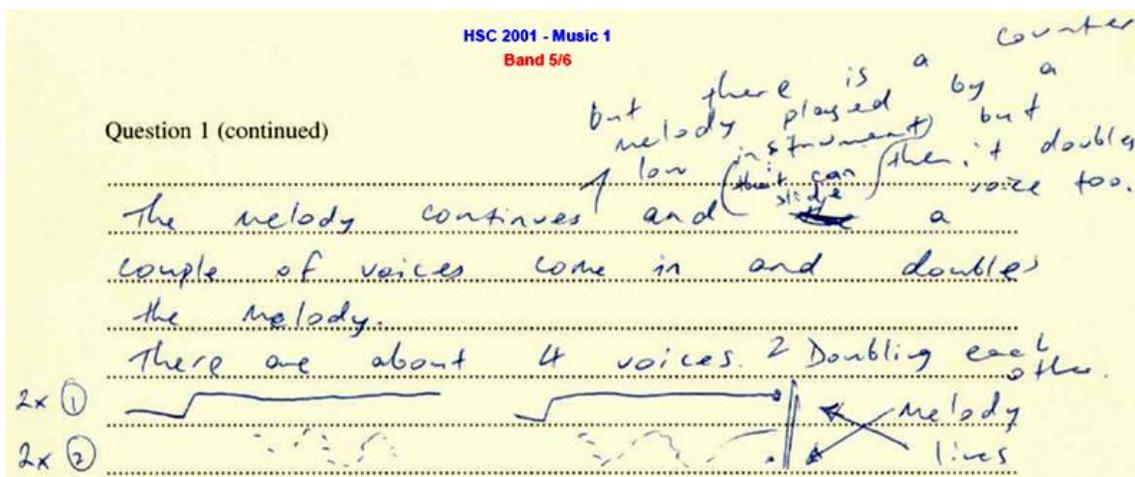
Due to space restrictions, the analytical table alone will be used for analysis of further images in this chapter. Another pitch contour will now be analysed to compare the affordances of a contour created with dots and one created by a continuous line.

Pitch contour as a line

Pitch contours constructed from curved lines are also effective at representing specialised musical knowledge even though the individual pitches are not shown.

Instead the individual pitches are smoothed into a line which shows the general direction and shape of the melody, as shown in two contours in Figure 5.4. This answer contains two pitch contours, one created with a continuous line and one with a dotted

line. In this dotted pitch contour, the dots do not represent individual pitches but, instead, the dots are a device to differentiate the two melodies' contours. The crossed arrows correct an error in the student's drawing of the contours, indicating that the dotted line should appear on top (as a higher pitch) with the broken or dotted line below (as a lower pitch).



(verbiage retyped for clarity) The melody continues but there is a counter melody played by a low instrument that can slide but then it doubles voice too, and a couple of voices come in and double the melody. There are about 4 voices. 2 doubling each other.

Figure 5.4: Image and verbiage related to pitch:
Excerpt from 2001 HSC Band 5/6 Question 1 Sample 2

In this answer, the verbiage again specifies the performing media that create the sound. While some aspects of meaning about melody and texture are expressed in verbiage, far more features are represented in the image. The shape of the contours expresses meaning about four features of the system of MELODY: jagged/smooth contour, direction, range and register. Patterns of similarity and difference are clearly revealed, through the interplay between melody 1 and melody 2 and the repeated shapes. The musical symbolism of two upright lines and two dots represents the repetition of the pitch contours. The musical features expressed in the image and verbiage are summarised in Table 5.3. This table shows that more features of concepts of music are

expressed by the image, demonstrating the greater semantic contribution of the pitch contours.

Table 5.3: Expression of aspects of music in verbiage and image:
Excerpt from 2001 HSC Band 5/6 Question 1 Sample 2

Aspect of music	System or taxonomy*	VERBIAGE Main text	Label	IMAGE
Performing media	<i>instruments; voices</i>	'low instrument that can slide', 'vocals', 'a couple of voices', '4 voices'		
Pitch	melody			high register (upper contour), low register (lower contour); narrow range; ascending and descending direction (dotted contour), same level (line contour); smooth contour
	melodic patterns	imitation: <i>imitating</i> ; 'doubles / doubling the melody, 2 doubling each other'		imitation, repetition
Texture	texture	thin: 'two layers', '4 voices'	'melody lines', '1', '2'	thin (two contours)
	function	melodic: <i>melodic roles</i> 'melody', 'counter-melody'		
Duration	rhythm patterns			long note values (line contour)
Structure	<i>section and phrase structures</i>		repeated: '2x'	repetition (repeat sign); question and answer (shown in two almost identical contours)
Principles of composition	similarity / difference			repetition (of each contour; repeat sign) contrast/variety (dotted contour vs unbroken contour)
Temporal specification		'then'		(left to right unfolding of music in time)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

Other variants of pitch contours – lyrics

Pitch contours featuring both dots, or continuous curves, or both, were found in student work collected in classrooms participating in the research. In a model answer provided

by one of the Music teachers, Dianne, a pitch contour was created using dots and curves as well as lyrics.

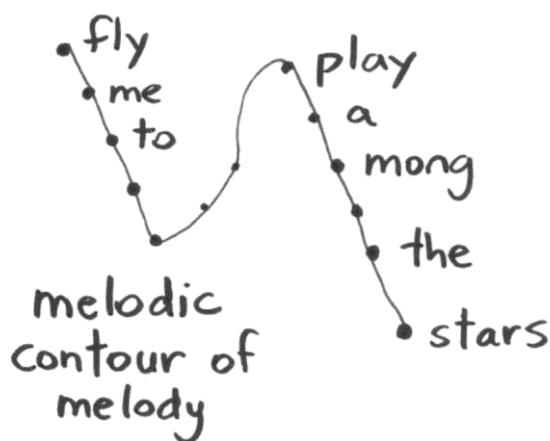


Figure 5.5: Pitch contour with lyrics, Dianne

Dianne’s pitch contour in Figure 5.5 specifies selected syllables from the lyrics in the musical excerpt (‘Fly me to (the moon and let me) play among the stars’). Song lyrics are a powerful addition to a pitch contour as they express the exact timing of each pitch.

Unsuccessful pitch contours

Without verbiage, some meanings expressed in pitch contours would be incomprehensible. Only verbiage can accurately name performing media and also specify when the melody occurs. The importance of language labels is demonstrated in a pitch contour used in an answer that achieved a low mark (3 marks out of a possible 8), collected in the classroom corpus of student work. In Zach’s answer (Figure 5.6), it is not possible to determine if he has represented a melody from one bar only, or from the entire piece.

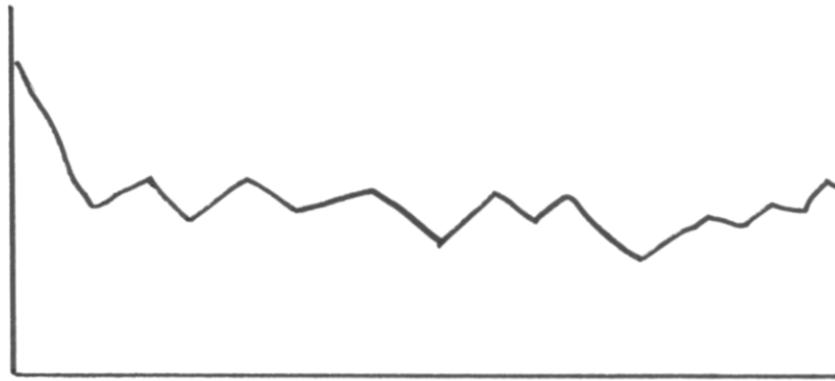


Figure 5.6: Pitch contour without labels, Zach

This analysis shows that pitch contours are effective semiotic resources in the context of the HSC examination, due to their capacity to relate simultaneously to several features of the concept of pitch and also to reveal patterns of similarity and difference over time. Pitch contours, however, rely on complementary resources from language in the form of labels and captions to specify what concept is being described and when the particular melody occurs. In this way, image and language work together to build musical meanings.

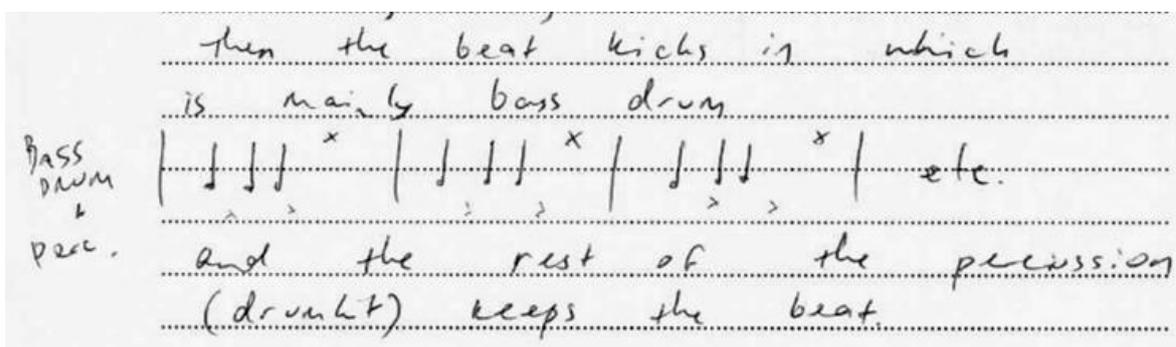
5.3.2 Rhythm notation

Rhythm notations of different types are also common in successful Music answers, but these images rarely use traditional notation. In the Standards Packages, there is only one traditional notation of a complete musical phrase, similar to the one in example 1 of the typology in Figure 5.1. Three other instances of rhythm notation in the Standards Packages were shorter, representing only one bar in each case, with one notation in an abbreviated form as shown in Figure 5.6 below. Of the seven participating students in the classroom corpus, only two students attempted traditional rhythm notation, with varying degrees of success. Due to the particular context for this research, reduced and

non- traditional forms of rhythm notation are more fruitful for analysis because of their applicability to a diverse student cohort.

Simplified rhythm notation

Simplified rhythm notation contains some but not all of the elements of traditional notation. Usually notes are drawn in some form but notational aspects are missing, such as a time signature, bar lines, rests and other details. An example of reduced rhythm notation can be found in Figure 5.7 from a student text that achieved success in the HSC.



(*verbiage retyped for clarity*) Then the beat kicks in which is mainly bass drum and the rest of the percussion (drumkit) keeps the beat.

Figure 5.7: Image and verbiage related to duration:
Excerpt from 2001 HSC Band 5/6 Question 1 Sample 2

Verbiage in the text related to duration is quite brief. Mention of 'the beat' is a somewhat vague reference to the feature of regular metre from the system of SOUND TIME (see Appendix B). In contrast, the simplified rhythm notation refers to all three features of the SOUND TIME system as realised in the musical excerpt: monorhythmic, constant tempo and simple quadruple metre. In addition, the notation also represents each feature in the system of RHYTHM PATTERNS: medium duration note values, syncopated, not imitated, repeated, not varied. All features of verbiage and image are

displayed in Table 5.4, showing that verbiage alone mentions performing media but that the rhythm notation expresses more meaning about duration.

**Table 5.4: Expression of aspects of music in verbiage and image:
2001 HSC Band 5/6 Question 1 Sample 2**

Aspect of music	System or taxonomy*	VERBIAGE		IMAGE
		Main text	Label	
Performing media	<i>instruments</i>	'bass drum', 'drumkit', 'rest of the percussion'	'bass drum & perc.'	
Duration	sound time	regular metre: 'the beat kicks in', 'rest of the percussion keeps the beat'		simple quadruple metre (4/4 implied)
	rhythm patterns			medium note values (crotchets drawn; cross implies a crotchet rest); repeated; not imitated; not varied; syncopated (<i>syncopated rhythms: backbeat</i> suggested by crosses under the notes)
Principles of composition	similarity / difference			similarity, repetition
Temporal specification				(3 bars notated)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

One important point to mention about a simplified rhythm notation is that it implies other elements from traditional notation, such as the time signature. An expert marker will know that this pattern has a particular time signature and rhythmic feel (4/4) even though it is not stated explicitly. In this way, a simplified rhythm notation engages the marker's expertise in co-interpreting meaning about concepts of music.

Non- traditional rhythm notation

An example of non-traditional rhythm notation will now be explored to identify if the advantages of image extend to more idiosyncratic variants. In Figure 5.8, one of the students participating in the research, Rory, has not attempted to use musical symbolism at all. Instead, he has drawn non- traditional rhythm notation using numbers and circles, oblique lines and a dot. His image still follows conventions of musical time unfolding

from left to right. Utilising the spatial affordances of image, beats of equal length are indicated by equal spacing between numbers, and shorter notes ('16th notes') are represented by oblique lines between numbers 2 and 3.



(*verbiage*) Accompanying her (the vocalist) are faint drums playing a kick drum on each 1 beat, the hi-hat hits though change occasionally to 16th notes for a very short period of time before resolving back to the simple beat with the hi-hat landing on each beat.

Figure 5.8: Non-traditional rhythm notation, Rory

In *verbiage*, Rory refers to taxonomies of performing media ('drums, kick drum, hi hat, bass') and to one feature of SOUND TIME (regular metre, implied by 'simple beat'), and two features of RHYTHM PATTERNS: short note values ('16th notes') and unaccented ('on each 1 beat', 'landing on each beat'.) In contrast, Rory's non-traditional rhythm notation refers to all the features from both the SOUND TIME and RHYTHM PATTERN system networks, as shown in Table 5.5. Furthermore, different visual elements – lines, dots, circles and numbers – give salience to principles of composition, shown in the contrast between long and short beats. Moreover, the numbers are equally spaced to represent the steady count in each bar, as a visual anchor for the other geometric shapes. Yet again, the viewer can focus attention on the bar as a whole, on the left-right progression or on any one beat, showing a flexibility of perspective on time.

Table 5.5: Expression of aspects of music in verbiage and image: Rory

Aspect of music	System or taxonomy*	VERBIAGE		IMAGE
		Main text	Label	
Performing media	<i>Instruments</i>	‘drums’; ‘kick drum’; ‘hi hat’; ‘bass note’	‘bass note’	
Duration	sound time	regular metre (implied ‘simple beat’)		polyrhythmic; simple quadruple metre (4/4)
	rhythm patterns	short note values; unaccented	‘16 th note’; ‘simple beat on each beat’	medium note values (circles around beats 2, 3, 4); short note values (oblique lines placed close together between numbers 2 and 3; 4 semiquavers (16 th notes shown); short note value of bass note implied by small dot); not syncopated (bass note on 1 st beat, other accents on beats 2,3,4)
Texture	thin/thick	medium (vocalist, kick drum, hi-hat)		medium: (3 rhythms – dot, circle, oblique line)
	function	<i>accompaniment</i> : ‘accompanying her’		
Dynamics	loud/soft	soft: ‘faint drums’		
Principles of composition	similarity / difference			contrast (dot, circle, oblique line); repetition (circles around 2 3 4)
Temporal specification		‘on each 1 beat’, ‘occasionally’, ‘for a very short period of time’		(exact sequence and timing of rhythm patterns represented)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

Even without using musical elements (i.e. notes or rests), when combined with the key features represented in the verbiage, Rory has referred to many aspects of meaning about duration, including principles of composition. This analysis shows that even for less musically accomplished students, non-traditional rhythm notation is a useful tool for expressing meaning about features of duration.

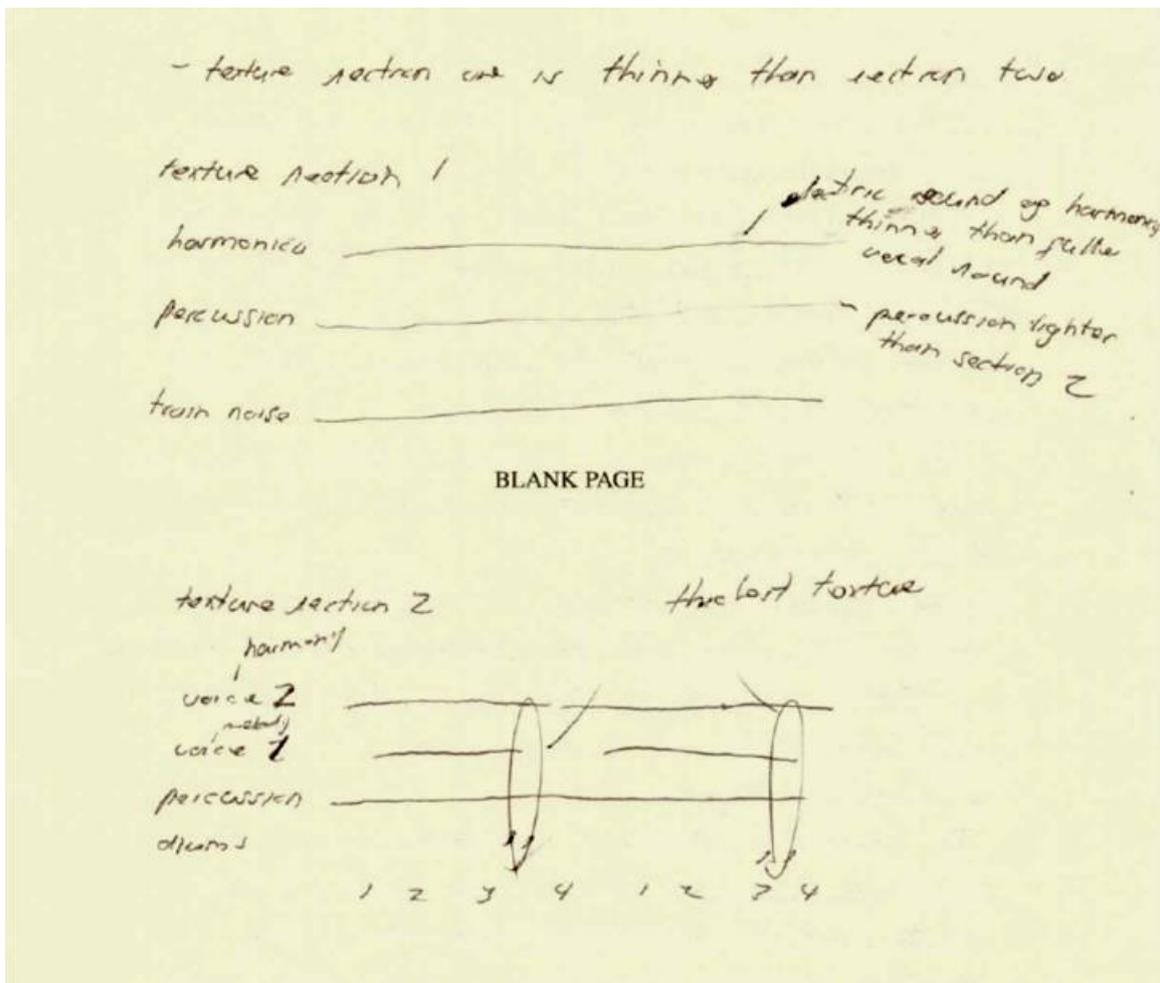
Simplified rhythm notation and non-traditional notation are effective semiotic resources for referring to musical meaning about duration. While students without a musical background are not likely to deploy traditional notation in a pressured examination situation, the analyses here show that other simpler forms of notation can also

contribute semantic weight to an answer about duration. In idiosyncratic forms of notation, language labels and keys are essential for interpretation. Given the high level of specification of musical features in simplified and non-traditional rhythm notation, both of these forms of notation should be part of the semiotic toolkit for Music students in this examination context.

5.3.3 Texture score

A texture score is a simplified orchestral score with each instrumental or vocal part smoothed into a line. Each line indicates when the performing media play, with entry and exit points shown by a break in the line. Two different styles of texture scores will be analysed, the first from the Standards Packages and the second from the classroom corpus.

Two texture scores from a successful answer that achieved a grading in the top mark band are presented in Figure 5.9. The texture scores are labelled ‘texture section 1’ and ‘texture section 2’ with additional verbiage for ‘the last texture’. These labels show the important role of verbiage in linking the score with a specific time or section in the musical excerpt. Labels also identify performing media.



(*verbiage on scores retyped for clarity*) texture section one is thinner than section two
 electric sound eg harmony thinner than fuller vocal sound
 percussion lighter than section 2

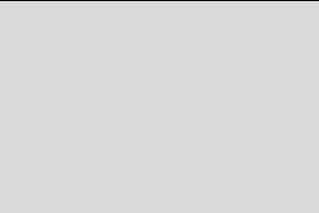
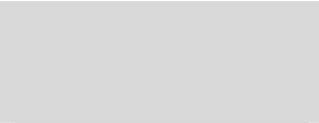
Figure 5.9: Image and verbiage related to texture:
 Excerpt from 2001 HSC Band 5/6 Question 1 Sample 1

The performing media labels on the left hand side of the score are the given information, that is, the departure point for the image. On the right hand side is the new, the lines which represent what and when the performing media play. The given/new composition realises the importance of labels for interpreting a texture score. Verbiage also identifies that texture in section 1 is ‘thinner’ than in section 2, referring to the feature of thin/thick texture, but there is not much elaboration on this point. Also related to the concept of texture, verbiage realises aspects of the system of FUNCTION, by

specifying the melodic and harmonic roles of the performing media in the ensemble ('voice 2 – harmony', 'voice 1 – melody').

Each texture score provides different perspectives on musical time. A horizontal view of the texture score shows that all performing media continue in section 1 but there is more variety in section 2, especially due to the specificity of numbers representing beats of the bar ('1 2 3 4'). The ovals in section 2 suggest rests, a feature related to the concept of duration, giving salience to the co-patterning of voice 1 and drums. Patterns of similarity and difference (principles of composition) are far more salient in the texture scores than in the comparative qualities expressed in verbiage ('thinner', 'fuller', 'lighter'). Table 5.6 shows the relative contribution to expression of concepts of music of verbiage and image.

Table 5.6: Expression of aspects of music in verbiage and image:
Excerpt from 2001 HSC Band 5/6 Question 1 Sample 1

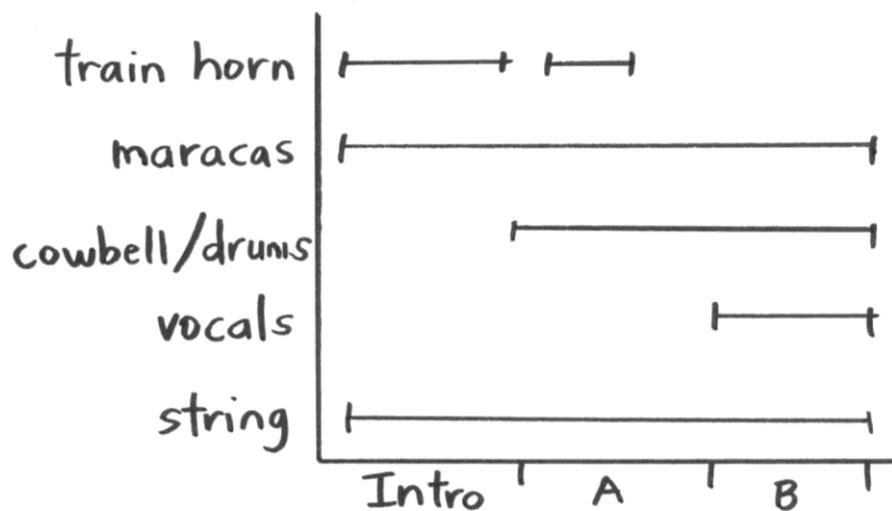
Aspect of music	System or taxonomy*	VERBIAGE		IMAGE
		Main text	Label	
Performing media	<i>Instruments</i>	‘percussion’; ‘electric sound’,	‘harmonica’, ‘percussion’, ‘train noise’, ‘percussion’, ‘drums’	
	<i>Vocals</i>	‘vocal sound’	‘voice 1’, ‘voice 2’	
Texture	texture	medium (three labels in section 1 and four labels in section 2); ‘thinner’		medium (three layers in upper score and four layers in lower score)
	function		<i>melodic roles</i> ‘harmony, melody’	
Tone colour	sound quality	‘electric sound’, ‘fuller vocal sound’		
Dynamics	loud/soft	soft: ‘lighter’		
Duration	sound time		simple quadruple metre (4/4) ‘1 2 3 4’	short note values (rests in section 2 shown by broken line and oval shape)
	rhythm patterns		repeated ‘1234 1234’	
Principles of composition	similarity / difference	difference (implied by ‘thinner’)	repetition (of ‘1234’)	repetition (oval shapes and oblique lines)
Temporal specification		‘section 1’, ‘section 2’, ‘last texture’	texture section 2 ‘	(section 1 – all three lines play for entire section; exact entry points of voice and drums shown in texture section 2, indicated by oval and short oblique lines; lines show unfolding of time from left to right)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

The verbiage that makes up the captions on the texture scores appears to have been jotted down at different times during the examination. This makes the texture scores a potentially useful exam technique.

Student work collected from classrooms participating in the research featured many texture scores. David’s answer, for example, also uses language labels to represent performing media, as shown in Figure 5.10. Textural layers are represented as horizontal lines, with a short upright line marking the beginning and end of each, and

firmly delineating the entry and exit points of performing media. In other ways, the texture scores are similar to the previous example.



(*verbiage*) Overall texture is thick as a number of instruments are used. The train horn and maracas played in intro, along with heavy, elongated strings. In Section B vocals eventually come in.

Figure 5.10: Image and verbiage related to texture, David

In summary, a texture score facilitates a heuristic perception of texture in an entire piece, as well as being able to focus on more detailed happenings in any one section. One section can be viewed vertically, or one moment can be noticed, for example, the start of the piece with three instruments entering simultaneously, as represented in Figure 5.10. A third perspective on time follows the lines as vectors which represent music as a dynamic series of events, unfolding in time. If labelled accurately, texture scores are highly useful images for students in exam situations as they demonstrate aural discrimination and understanding of features of the concept of texture, particularly in relation to patterning of changing textures and principles of composition. This view will be elaborated in the discussion that follows of the second category of musical images: diagrams, including structure diagrams and graphic notation.

5.3.4 Structure diagram

Structure diagrams do not use musical symbolism but instead rely on geometric shapes and numbers to represent sections of a musical excerpt. In structure diagrams, musical events in a section or segment of musical time are condensed into a single entity. In the following example from the Standards Packages, the question directs the student to write about structure. For this reason, all the verbiage from the answer has been included in this analysis. The structure diagram in Figure 5.11 is placed after the verbiage to reflect the original sequence from the student's answer.

(*verbiage*) The excerpt is based on a theme and consists of variations. Each phrase is ended by a cadence. The theme consists of 4 bars, the first 3 start with the same notes, but end on a different note (bars 2 + 3 end on same note). The last bar is a cadence.

Section A1 states this theme. Section A2 then plays the theme on different instrumentation.

Flute and violin play each section in call + response to each other – violin makes call, flute responds.

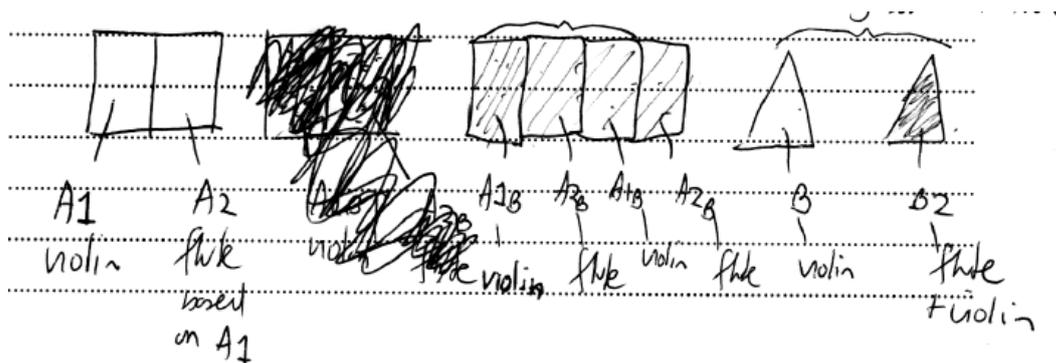
Section A1B uses the same instrumentation as Section A1, but the melody is expanded on by more notes and a faster rate of movement. Section A2B is the same instrumentation as Section A2 and the melody from Section A1B. Section A1B and A2B are then repeated.

Section B is a different melody which is only loosely based upon the theme. Section B2 is the same as Section B with a flute doubling the melody up one octave.

Each section is characterised by the instrumentation.

Section A1B and A2B are a variation on the theme.

Section B is a different melody, loosely based on the theme.



End of Question 1

□ = main theme ▨ = variation on theme △ = new section

Figure 5.1 I: Image and verbiage related to structure:
2002 HSC Band 5/6 Question 1 Sample 3

The ‘theme and variations’ structure of the music is expressed in verbiage as well as in the structure diagram. The verbiage enables the naming of each section according to musical conventions (A, A1, A2, etc.) and the labelling of the structure diagram. The verbiage then describes what happens in each section in reference to other concepts of music including pitch (harmony and pitch patterns), texture (function), duration (sound time), and also the naming of performing media.

Together the verbiage and the structure diagram in this answer display musical knowledge about principles of composition. The verbiage presents features of similarity (‘same instrumentation’, ‘repeated’) and contrast (‘different instrumentation’, ‘end on a different note’, ‘different melody which is only loosely based on the theme’). The structure diagram uses contrasting geometric shapes (a rectangle and triangle) and shading to represent similarity and difference. Each modality, verbiage and image, represents principles of composition differently but both make similar meanings about concepts of music, a multimodal relation that has been called ‘concurrency’ (Unsworth, 2010, p. 280) between image and language.

Even though both image and language build similar meanings, the structure diagram has one major advantage: it is a synthesising device for the musical meanings expressed in the verbiage. The structure diagram demonstrates the student’s understanding of overall patterns in the music. Rectangles representing Sections A1 and A2 are the ‘given’ components, the pitch material, and represent the ‘theme’ from which other sections vary. The ‘new’ is represented by shaded rectangles or triangles. Shading represents variations of a main theme. Brackets identify groupings of similar sections, binding them together.

Aspects of the knowledge structure of music expressed in verbiage and image are shown in Table 5.7.

Table 5.7: Expression of aspects of music in verbiage and image:
Except from 2002 HSC Band 5/6 Question 1 Sample 3

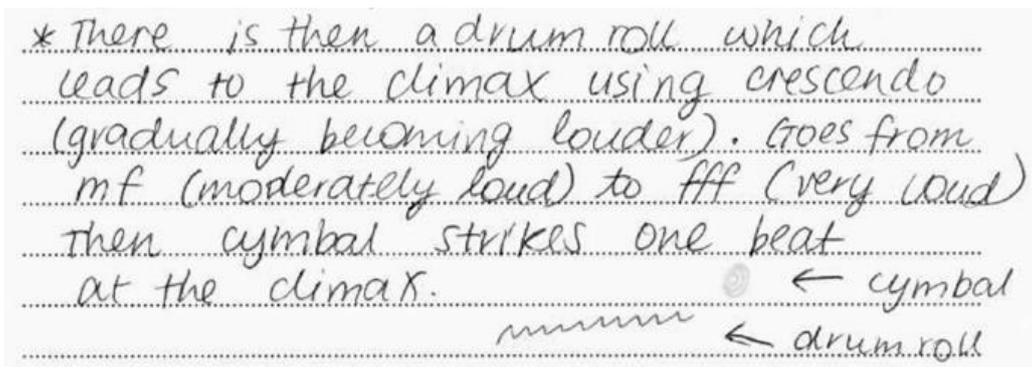
Aspect of music	System or taxonomy*	VERBIAGE		IMAGE
		Main text	Label	
Performing media	<i>Instruments</i>	'flute and violin'	'flute', 'flute based on A1', 'violin'; 'flute & violin'	
Pitch	harmony pitch patterns	fast rate of change; <i>chord progressions</i> : 'cadence' imitated, repeated; <i>imitation/repetition</i> 'call and response...violin makes call, flute responds', 'flute doubling the melody' varied: 'different melody which is only loosely based on the theme', 'different melody, loosely based on the theme'		
Texture	function		melodic roles 'main theme', 'variation on theme'	
Duration	sound time	fast: 'faster rate of movement'		
Structures	<i>single movement structures</i>	'theme and ... variations'; 'Section A1'; 'Section A2'	'A1 A2 A1B A2B A1B A2B B B2'; 'new section'	
Principles of composition	similarity / difference	difference: 'different instrumentation', 'end on a different note'; repetition: 'the first 3 start with the same notes'; 'same instrumentation', 'repeated'		
Temporal specification		section names; 'theme consists of 4 bars'	'A1 A2 A1B A2B A1B A2B B B2';	

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

While more features of systems are actualised in verbiage, the meanings expressed in the structure diagram are still significant. The diagram remains a useful device for distilling section names and instrumentation (flute, violin or both), providing a heuristic for the entire structure in support of the language. The diagram can be altered several times during the examination as different aspects of the music are discerned (as shown by the scribbles and crossing out in Figure 5.11), thus making diagrams a flexible semiotic resource for Music students. A structure diagram is, therefore, useful for synthesising and clarifying meaning about this aspect of music.

5.3.5 Graphic notation of performing media

The graphic notation of performing media is used to represent different musical sound sources through geometric shapes, lines and patterns. There are no standard visual resources for describing tone colour (or the distinctive sounds of different performing media) so design elements in graphic notation of performing media tend to be idiosyncratic. Two instances will be analysed from the Standards Packages as there are no instances of this type of image in the classroom corpus. One successful answer from the Standards Packages, presented in Figure 5.12, makes several findings related to performing media and dynamics (volume) in verbiage, accompanied by a small diagram to represent a drum roll and cymbals.



(verbiage retyped for clarity) There is a drum roll which leads to the climax using crescendo (gradually becoming louder). Goes from mf (moderately loud) to fff (very loud) then cymbal strikes one beat at the climax.

Figure 5.12: Image and verbiage related to performing media
Excerpt from 2001 HSC Band 5/6 Question 3 Sample 1

The verbiage addresses the concept of dynamics: ‘very loud/soft’ and ‘becoming louder’, as well as a principle of composition: tension (‘climax’). The main text of the verbiage names performing explicitly and labels are then also placed on the graphic notation (‘drums’, ‘cymbal’). A ‘drum roll’, which is a series of rapid drum beats creating a continuous rolling sound, is an expressive technique identified in the verbiage. In contrast, the graphic notation does not contribute any additional expressions of musical meaning. It is possible for the wavy line to somehow represent the rapid drum roll or for the round shape to mimic the cymbal’s round shape. Performing media, however, have already been identified in the verbiage so the graphic notation simply repeats the same meanings, creating between the image and language a relationship of ‘equivalence’ (Unsworth, 2008). The graphic notation fails to represent any features of concepts of music not already identified in verbiage, as shown in Table 5.8.

Table 5.8: Expression of aspects of music in verbiage and image:
2001 HSC Band 5/6 Question 1 Sample 1

Aspect of music	System or taxonomy*	VERBIAGE		IMAGE
		Main text	Label	
Performing media	<i>Instruments</i>	'drum roll', 'cymbal'	'cymbal', 'drum roll'	(circle possibly representing round cymbal)
Pitch	melody			high/low register (lower placement of wavy line suggests lower pitch than the circle)
Expressive techniques	ornamentation		'drum roll'	(wavy line may represent the rapid movement of the drum sticks in a drum roll)
Dynamics	changing loud/soft	'crescendo (gradually becoming louder'. 'Goes from mf (moderately loud) to fff (very loud)'		
Principles of composition	similarity / difference	tension: 'climax'		difference (contrast between tone colours shown in wavy line vs circle)
Temporal specification		'leads to the climax'; then .. at climax'		(sequence of musical events: drum roll then cymbal)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

In this example, the image is not necessarily contributing additional or more detailed expressions of meaning, so it is probably not one of the contributing factors to a successful answer. A similar finding emerges from an analysis of an image used in another answer. The student creates a small graphic notation of a 'regular whistle' sound, followed by strings, with an additional label for a 'counter melody', as shown in Figure 5.13.

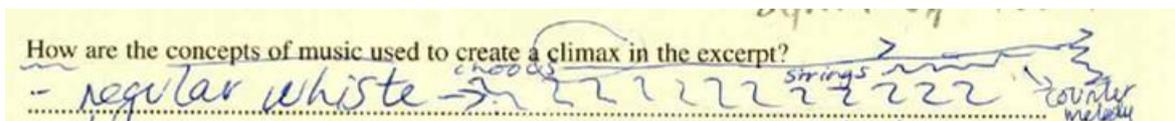


Figure 5.13: image and verbiage related to performing media:
Excerpt from 2001 HSC Band 5/6 Question 3 Sample 2

This small graphic notation represents the order of musical events, with the whistle first, followed by strings, and contrast is suggested by the varying line shapes. Nevertheless, it is the labels that contribute the most valuable information about the performing media while the curvy lines do not represent any substantial musical features. As a consequence the graphic notation seems to contribute little of semantic value to the answer.

In summary, graphic notations of performing media appear not to express features of concepts of music in a significant way. While images can show the sequence of musical events, and express similarity and difference between performing media, identical meanings expressed in verbiage can make the notation somewhat redundant. In this case where language and image have a relationship of equivalence, the image is not needed. As a result of this analysis, graphic notation of performing media is not recommended for inclusion in the semiotic tool kit for expressing meanings about concepts of music in the HSC Music aural examination.

5.3.6 Structure and performing media table

The next category of images used in HSC Music answers is tables. Two examples of tables will be analysed, one from the Standards Packages and one from the classroom corpus. A successful answer containing verbiage and a table in response to a question about the structure of the excerpt is shown in Figure 5.14. All of the verbiage in the student's answer has been included as the entire answer refers to the concept of structure. The original table, split into two parts over two pages of the answer booklet, has been reproduced but the verbiage has been typed so it is easier to read.

Describe the structure of the excerpt.

	violin	viola	lute	cello	double bass	flute
A	✓	✓		✓	✓	
A1	✓ plucked	✓ plucked	✓		✓	✓
B	✓	✓	flute	✓	✓	
B1	✓ plucked		✓	✓	✓	✓
A ²	✓	✓		✓	✓	
B ²			✓	flute	✓	✓

	violin	viola	lute	cello	double bass	flute
A ³	✓	✓		✓		
A ⁴	✓	✓		✓	✓	✓

(*verbiage retyped for clarity*) Theme is repeated, imitated and varied in each new section.

Contrast is made by use of differing music sources to play main melody / theme
Flute plays melody, then violin.

Piece is unified by the ensemble instruments.

String ensemble (violin, viola, cello and double bass)

Main melody structure is flowing and sounds very improvised in its structure.

Excerpt could be a round due to the repetition of the main theme.

Call and response between violin and strings, and lute and flute.

Dynamics differences between sections is minimal and controlled by the combinations of different instruments.

Binary piece due to the two main sections.

Because it is a 'dance' tempo and time signature remain constant.

Figure 5.14: Image and verbiage related to structure
2002 HSC Band 5/6 Question 1 Sample 1

The verbiage in the main part of the answer presents features of concepts of music in no particular sequence or order. Some findings do not answer the question, such as the

final point about the ‘dance’ tempo and constant time signature. There is also an incorrect finding: the piece is in a ‘theme and variations’ form, not a ‘round’.

In contrast, the table instantly answers the question about the structure of the excerpt by showing the number of sections and listing the performing media that appear in each section. The student has placed the table in a salient position, at the top of the page before the verbiage, as a starting point for the answer. The straight lines and even grid pattern convey a sense of order that is not found in the random points of verbal language. The table acts as an organising device for the text, which provides a framework for findings about the music expressed in verbiage. Meanings expressed in verbiage jump from concept to concept in a disorganised way, but the table provides a reference point for the markers in interpreting the answer.

Tables show various ‘co-patterning’ of data (Lemke, 1998, p. 99), enabling three temporal perspectives. A horizontal view of rows highlights thick and thin patterns of texture in each section, as shown by the number of ticks. Vertically, each performing media can be tracked across the entire excerpt, to see when it plays or does not play. The viewer can choose how to perceive musical features, by time (vertically) or by texture (horizontally) or as a Gestalt, or whole. In this way, a variety of complementary patterns of unity, contrast, similarity and difference are represented.

Without verbiage, however, the ticks in the table (and the additional verbiage) would have no referent. In this way, the semantic roles of verbiage and image are mutually dependent, similar in many forms of ‘new writing’ (van Leeuwen, 2008). The aspects of music actualised in image and verbiage, with the significant contribution to the concept

of texture and to principles of composition made through the image, are presented in

Table 5.9.

Table 5.9: Expression of aspects of music in verbiage and image:
2002 HSC Band 5/6 Question 1 Sample 3

Aspect of music	System or taxonomy*	VERBIAGE Main text	Label	IMAGE
Performing media	<i>Instruments</i>	'flute', 'violin', 'lute', 'combinations of different instruments'	'violin, viola, lute, cello, double bass, flute'	
Pitch	pitch patterns	'repeated, imitated, varied'		
Dynamics	constant/cha	constant 'dynamics differences ... minimal'		
Expressive techniques	nging articulation	smooth: 'flowing'	detached 'plucked'	
Duration	sound time	regular metre: 'dance tempo', 'time signature ... constant'		
Texture	thin/thick			thick (six columns represent performing media, rows represent sections; ticks represent presence of performing media in each section; some rows have four ticks, others have five ticks, empty grids indicate silences or absence of performing media; vertical view shows when a performing media plays throughout 8 sections, and horizontal view shows number of performing media in each section)
Structures	<i>single movement structures</i>	'a round' (incorrect); 'binary – two main sections'	'A, A1, B, B1, A2, B2, A3, A4'	(8 sections shown as rows)
	<i>section and phrase structures</i>	'call and response'		
Principles of composition	similarity / difference	repetition: 'repeated', 'imitated', 'repetition of the main theme', 'dynamics differences... minimal'; 'time signature.. tempo.. constant'. difference: 'varied', 'contrast', 'different music sources'		(similarity and difference indicated by number of ticks in each section; enables Gestalt of overall texture in the piece; contrast between unfolding textures in musical time (vertically) and participation of performing media in each section (horizontally); white spaces contrast with salient ticks)
Temporal specification		'flute plays main melody then violin'	'A, A1, B, B1, A2, B2, A3, A4'	(8 sections represented as rows)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

Other tables found both in the corpus of data in the Standards Packages and in student work arrange the columns and headings differently. Instead of the performing media being listed along the top, as column headings, musical sections are placed along the top row to head the columns, and the performing media become the row headings as in Figure 5.15. This is the same question answered above in Figure 5.14.

An excerpt (1 minute) from a Renaissance dance, *La Volta*, will be played SIX times for you to answer Question 1.

Time: First playing — short pause
 Second playing — 30 second pause
 Third playing — 1 minute pause
 Fourth playing — 1 minute pause
 Fifth playing — 2 minute pause
 Sixth playing — 2 minute pause

|||||||

Order
 AA₁, B, B₁, ~~A₃~~,
 C, C₁ B₂, B₃

Describe the structure of the excerpt.

The structure of this excerpt involves 2 phrases played twice and then a new section occurs

	A	A ₁	B ₂	B ₁	A ₂	A ₃	B₁	B₂
Violin	✓	✓ Phases	✓	✓	✓	✓	✓	✓
Cello	✓	✓ Phases	✓	✓	✓	✓	✓	✓
Flute		✓ Melody		✓ Melody		✓		✓
Viola	✓	✓	✓	✓	✓	✓	✓	✓
Accomp. Harpsichord	All the way through							

Figure 5.15: Image and verbiage related to structure Excerpt from 2002 HSC Band 5/6 Question 1 Sample 2

In Figure 5.15, musical time can be seen as unfolding from left to right, in contrast to the vertical arrangement of time in Figure 5.14. One advantage of this second layout is that the student can add verbiage on a horizontal line, such as ‘all the way through’ in this figure. There is no evidence in the data that the markers have a preference for either layout. It seems more logical to follow the conventions of musical time represented as

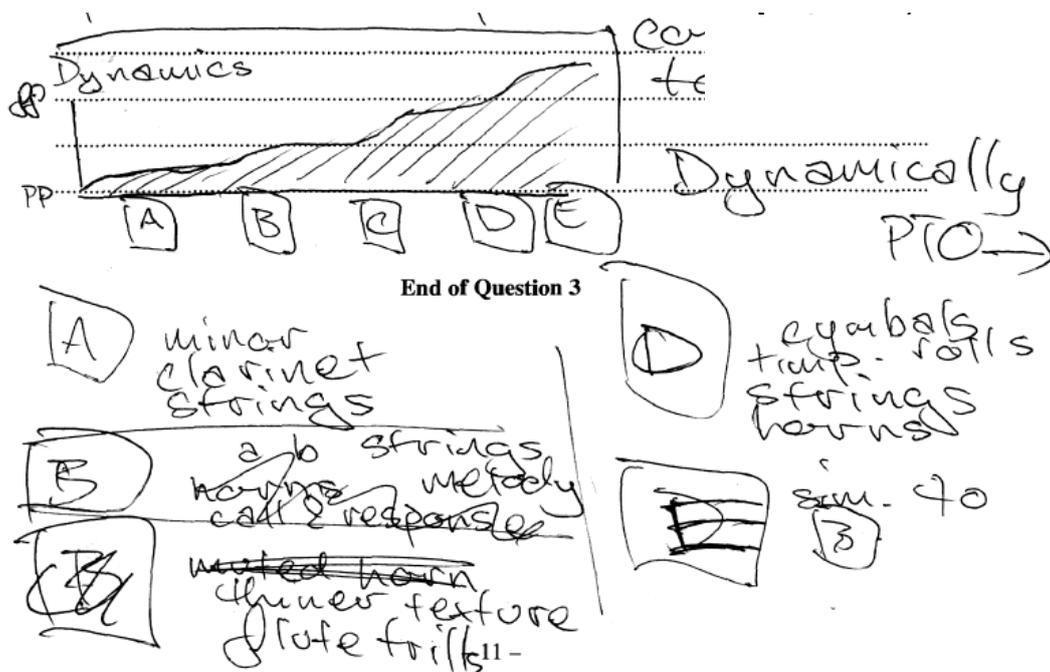
unfolding from left to right, and so to include the musical sections as column headings along the top of the table as in Figure 5.15.

Interestingly, a survey of low achieving answers in the Standards Packages showed a notable absence of tables. There is one Band 3/4 answer (a pass grade) which consists of a table and a mere four clauses of verbiage. This suggests that the inclusion of a table with limited verbiage seems to be enough to achieve a pass grade, showing how valuable a table is as a semiotic resource for this examination.

5.3.7 Dynamics graph

The final image for analysis is a dynamics graph. Only one instance of a dynamics graph was found in the Standards Packages corpus but there were several from the Music classes participating in this research. A dynamics graph appears similar to a pitch contour, with a curved line, but instead of describing pitch, the line represents changes in volume (loud and soft).

A dynamics graph, and verbiage related to dynamics from a successful answer, are presented in Figure 5.16. In the verbiage, dynamics across the entire excerpt are described: ‘dynamics build with each section culminating the *ff*’ (NB: *ff* means ‘fortissimo’, very loud, in Italian). The verbiage also refers to changes in dynamics between sections: ‘In A soft, B loud, C they go softer again’. In the dynamics graph, dynamics are described according to a more finely grained scale, as the labels on the y axis range from *pp* (NB: *pp* means pianissimo, very soft, in Italian) to *ff*.



(verbiage) Dynamically, there is contrast achieved between the different sections. The dynamics build with each section culminating in the ff and E. However, instruments such as the strings do change the dynamics differently within the excerpt. In A soft, B loud, C they go softer again.

Figure 5.16: Image and verbiage related to dynamics:
2002 HSC Band 5/6 Question 3 Sample 2

The dynamics graph expresses meaning about gradual changes in dynamics unfolding in time from left to right. As the line rises, the ‘amount’ of volume increases, shown by the shaded section below the line, and created by a series of oblique lines that draw the eye from the x axis upwards towards the dynamics vector. The salience of dynamics grows throughout the excerpt and by section E, the entire section is ‘filled’ with loud dynamics represented by shading. The dynamics graph enables a heuristic perception of the overall volume trend of the excerpt, that despite some smaller changes, dynamics rise from very soft to very loud. In a dynamics graph, the line representing dynamics is nominalised (Kress & van Leeuwen, 2006, pp. 102-103), where dynamics becomes a ‘thing’ that can ‘increase’ or ‘build’ towards Section E rather than a changing process of sound becoming louder. This building of dynamics represents a ‘difference’ which contributes to the principles of composition: contrast and interest.

As in other images, three perspectives on musical time are possible in viewing the dynamics graph. The dynamics of the entire excerpt can be viewed, or the dynamics line can be tracked from left to right as time unfolds, or from a vertical perspective, one section, or even one moment on the line, can be viewed as a snapshot.

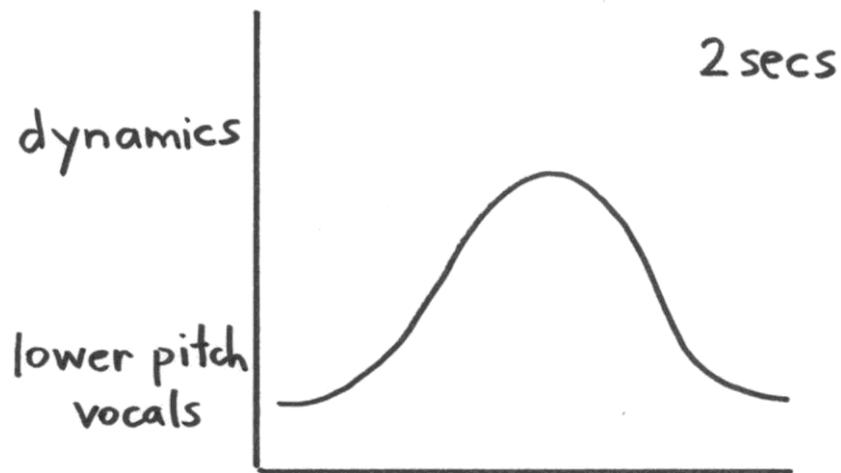
Significant musical information is communicated in verbiage in the key for the graph. Performing media are specified as well as features of expressive techniques: 'flute trills', 'timp. rolls' (meaning timpani, a large drum). Musical meanings expressed in the dynamics graph and the verbiage are represented in Table 5.10.

Table 5.10: Expression of aspects of music in verbiage and image:
 Excerpt from 2002 HSC Band 5/6 Question 3 Sample 2

Aspect of music	System or taxonomy*	VERBIAGE		IMAGE
		Main text	Label	
Performing media	<i>instruments</i>		'clarinet, strings, flute, horns, cymbals, timp.'	
Dynamics	loud/soft	'in A soft, B loud, C softer'	'pp', 'ff'	
	constant/ changing	'dynamics build'; 'culminating in ff'		changing (rising line represents increasing; shading makes 'amount' of dynamics more salient)
Expressive techniques	articulation		'flute trills', 'timp. rolls'	
Texture	thin/thick		'thinner texture'	
Structures	<i>single movement structures</i>		'A B C D E'	
Principles of composition	similarity / difference	contrast: 'contrast achieved between the difference sections'; difference between pp and ff		(contrast between straight lines of axes and curved line of dynamics; rising line and shading under line)
	tension	'The dynamics build... culminating in the ff'		
Temporal specification		'within the excerpt', 'In A', '(in) B', '(in) C'	'A B C D E'	(left to right unfolding of dynamics over time)

*Italics refer to options in meaning systems represented in the taxonomies provided in the appendices.

Similar to the texture score, structure and performing media table, and the structure diagram, a dynamics graph, such as the one in Figure 5.7, can represent musical meanings in the entire excerpt. Not all dynamics graphs, however, refer to the entire excerpt. The next example, by Peter and presented in Figure 5.7, represents only two seconds of musical sound.



(*verbiage*) The dynamics of the lower pitch vocal group crescendos then diminuendos, causing the audience to remain interested.

Figure 5.17: Image and verbiage related to dynamics, Peter

In the verbiage, Peter uses Italian terms for ‘gradually becoming louder’ (‘crescendo’) and ‘gradually becoming softer’ (‘diminuendo’), which are realisations of specialised musical meaning in Italian about changing dynamics. He also specifies a time reference of two seconds for the entire musical event being described. In the dynamics graph, as the line rises and falls, each point on the line is a moment in the music. White space below the line becomes bigger, growing in salience and significance towards the middle where the curved line bulges, hinting at a slight building and release of musical tension.

As shown in these two instances, through a variety of perspectives on musical time, dynamics graphs can express detailed musical meaning about subtle gradations of dynamics. Nevertheless, verbiage is needed to identify the scale of musical time being represented in the graph, as well as for section names, performing media and any other interesting musical details, including Italian musical terms.

5.4 Discussion

In this analysis of images in Music HSC examination answers, seven types of image have been classified and described: pitch contour, rhythm notation, texture score, structure diagram, graphic notation of performing media, structure and performing media table and dynamics graph. Applying analytical tools derived from SFL and SFMDA, analysis has revealed how language and image represent musical meaning realised in a short musical excerpt. The interplay of image and verbiage has also been explored to reveal ways in which semiotic resources refer to different aspects of meaning about concepts of music. It appears that image and verbiage have different potentials for expressing meaning about concepts of music, naming performing media and representing principles of composition. This section begins with a discussion of the affordances of image in representing musical time, followed by other advantages of using images as a semiotic resource in the examination for Music.

The importance of ‘naming’ and ‘labelling’

Verbiage is essential if musical images are to be interpreted meaningfully by examiners. A title or label is critical for identifying the concept of music being represented in an image. For example, a dynamics graph and pitch contour look similar, but the curved line in each image represents a different concept of music – either high and low sound or loud and soft volume. A table can describe a variety of variables but, in the absence of labels, data within a table would be incomprehensible. In addition, the first characteristic of successful examination answers, the explicit naming of performing media, is only possible if verbiage is used. Even though pictures of performing media are often drawn in children’s notation (Gromko & Russell, 2002; Reybrouck et al., 2009), there is no evidence that this is acceptable in the context of senior secondary examination answers. For a successful answer, performing media must be correctly

named in the verbiage, or they must be labelled on the image, especially on a pitch contour, texture score and table. It is language alone that can build meaning about performing media and announce the concept of music being described in an image.

Expressing specialised meaning about concepts of music

This analysis has revealed some of the ways in which images can represent simultaneously several features of concepts of music. Pitch contours, rhythm notation and dynamics graphs are particularly powerful image-based semiotic resources. Through the shape of its curved line, a pitch contour simultaneously refers to direction (ascending or descending), melodic contour (jagged or smooth), register (high, medium or low) and range (width of highest to lowest pitch in the melody). In terms of the concept of duration, non-traditional rhythm notation can refer to metre (time signature – how many beats in a bar) as well as long/short duration and rhythm patterns. Gradations of loud and soft dynamics can be represented in a dynamics graph, showing changes that occur over microseconds, a feat that is not practical in verbiage due to the time pressure of the examination. By utilising the affordances of visual semiotic resources in these ways, students can represent many aspects of concepts of music, thus making a high mark in the HSC examination more likely.

Referring to principles of composition

Some images build meaning about principles of composition in a consistent way. Principles of composition, such as unity, contrast and interest, are aspects of specialised musical meaning that students must engage with in order to achieve success in examination answers. Because images ‘present their content at a glance, providing a synoptic overview of the structure of the music’ (Reybrouck, 2004, p. 122), patterns and relationships of similarity and difference, unity and contrast are effectively represented

in images. This Gestalt perspective, from which ‘perception of the whole visual image takes precedence over perception of the parts’ (O'Halloran, 2008, p. 448), is particularly important for examination questions directing students to focus on principles of composition or when describing concepts of music that relate to the entire musical excerpt, such as texture and structure. Images that show patterns of similarity and difference, for example, a texture score, and a structure and performing media table represent the patterning of musical layers throughout an entire musical excerpt, showing how layers combine to achieve unity, contrast, similarity and difference. Dynamics graphs show rising volume levels that suggest rising tension, another principle of composition. Images such as these are useful resources for revealing a student’s aural discrimination of principles of composition.

Differing perspectives on musical time

As a temporal art, musical sound is dynamic and ephemeral. It is not possible for a student to physically hold, touch or look at a feature of music, so representing a feature of musical sound as an image can help to conceptually stabilise it for analysis.

Conceptual analytical structures (Kress & van Leeuwen, 2006), such as a table or a texture score, help to represent music as a stable entity over a range of time spans.

Students can choose the time span to use, or the ‘temporal window’ (Reybrouck, 2004, p. 412) which best suits their purposes in the answer.

Images also have more potential than language alone to enable a flexible and varying series of perspectives on musical time. Various ranks of musical time can be represented in an image, including micro-, meso- or mega-durations (Tagg, 2013, p. 281). An image can represent musical events that take a second or a few seconds (a micro-duration), or events in a phrase or section (a meso-duration), or the entire excerpt which lasts around

two minutes (a mega-duration). As successful students are able to link every finding to a specific musical time, images provide a flexible resource for representing musical events at different ranks. Structure diagrams, tables, texture scores and dynamics graphs can represent mega-durations. The pitch contour, rhythm notation and dynamics graph can represent musical events at meso- or micro-durations. Depending on what they notice, students can choose an image that focuses on the ‘terrain’ of the music, as a heuristic of the overall unfolding of sound, where ‘fluctuating highs and lows in one or more dimensions of sound (are) tracked over time’ (Tan & Kelly, 2004, pp. 205-206), for example, a structure diagram, texture score or a dynamics graph. Alternatively, if there is an outstanding event, students can choose an image that represents ‘landmarks’, or ‘perceptually striking features of the music’ (Tan & Kelly, 2004, pp. 205-206) through an image such as a pitch contour or rhythm notation. In this way, images can provide multiple perspectives on musical time, from a sense of the music as an abstract whole to a tiny moment and also as unfolding dynamic process.

Images as a useful examination technique

A final affordance of images is directly related to the context of the HSC examination for Music. In an hour long examination, students are required to listen to music while they compose an answer. Tables, structure diagrams and texture scores are useful as an exam technique as they provide a heuristic of the answer which can be completed at any time in the examination. During repeated ‘playings’ of the musical excerpt, extra parts of the image can be completed, as if filling in a jigsaw puzzle. Tables also ensure that the student describes the entire excerpt because a blank space or missing section can be identified before the end of the examination. In a rushed environment, pitch contours and non-traditional rhythm notation are also useful tools for an examination as they take

only a few seconds to complete. As a consequence, these images are flexible and useful resources for aural examinations.

Implications for Music education

Currently, images are part of the hidden curriculum of Music. However, this analysis reveals some of the affordances of not only ‘writing about music’ but also ‘drawing about music’. If more students are to understand and use images as semiotic resources, the Board of Studies could provide more explicit direction about the repertoire of images students can deploy and what images to use with particular examination questions. A commonly agreed metalanguage for naming commonly used images (e.g. texture score, structure diagram) would be a useful starting point, so that teachers and students can constructively discuss images and their features.

Based on this research, Table 5.11 shows which images could be useful for constructing specialised musical meaning in response to common examination questions. The table shows the focus areas of typical examination questions, as analysed in Chapter 4, based on either concepts of music, principles of composition or performing media. The right-hand column indicates which images are suitable for constructing meaning about the question. Where two or three images are suggested, both can be deployed, or one can be selected by the student depending on the musical features of the excerpt and the student’s level of aural discrimination.

Table 5.11: Musical images related to examination questions for HSC Music

Focus of examination question	Examples of past HSC questions	Repertoire of images that can be deployed
pitch	<i>Describe the use of pitch in this excerpt.</i>	pitch contour
duration	<i>Describe the use of duration in this excerpt.</i>	rhythm notation
dynamics and expressive techniques	<i>Describe the use of dynamics and expressive techniques in this excerpt.</i>	dynamics graph table (section names/dynamics or section names/ techniques)
tone colour	<i>Describe the use of tone colour in this excerpt.</i>	structure and performing media table (with additional verbiage related to tone colour)
texture	<i>Describe the texture of this excerpt.</i>	texture score structure and performing media table
structure	<i>Describe the structure of this excerpt.</i>	structure and performing media table structure diagram
performing media	<i>Describe how performing media are used in this excerpt.</i>	structure and performing media table texture score
principles of composition	<i>Describe how contrast is achieved in this excerpt.</i>	structure and performing media table texture score structure diagram
compare and contrast two excerpts	<i>Describe the differences between these two excerpts.</i>	table with variables of concepts of music and excerpt 1/excerpt 2

In building student capacity for drawing on the repertoire of musical images, teachers need to teach them explicitly from the early years to Year 12. At the same time, teachers need to gradually build understanding of concepts of music and skills in aural discrimination. The analysis in this chapter could contribute to the development of a spiral curriculum for teaching knowledge about the concepts of music, including use of images to display that knowledge.

5.5 Conclusion

Images are part of the disciplinary literacies of Music. The preceding discussion has described and classified a range of images that are effective resources for this purpose.

Discussion has covered the ways in which images are used to represent the features of concepts of music and also to represent multiple perspectives on musical time. Principles of composition are also referred to through visual patternings of similarity and difference. While language is still essential for labelling images, this analysis has highlighted the importance of images in Music education as valuable interpretive resources, especially for students without training in formal music theory. As this research is shared with Music teachers and academics, it is hoped that constructive professional dialogue can help to explore how various forms of notation can be used more consistently and effectively in Music education. By gaining a greater understanding of the affordances of musical images used in successful examination answers, it is hoped that pitch contours, rhythm notations, texture scores, tables and graphs can become part of the explicit curriculum of HSC Music, giving all students access to valuable semiotic resources for constructing meaning about concepts of music.

The next chapter explores how explicit disciplinary literacies were taught in Music and Business Studies as part of the intervention stage of this research project. In two Music classrooms, pitch contours and texture scores were included in teaching plans for new lessons, aimed at improving student achievement in the HSC examination for Music aural. However, images are not the only focus of new lesson plans. The new Music lessons also include structuring an answer and ‘making a point’. The intervention for Music as well as Business Studies will be explored in the next chapter.

CHAPTER 6: Pedagogies of disciplinary literacies

6.1 Introduction

This chapter turns to the ‘practice’ stage of the research project, where the theory of disciplinary literacies in Business Studies and Music is applied in five classrooms. In Stage 1 of the study, the literacy demands of each subject have been identified. The Business Studies examination answer is an explanation genre that builds chains of cause and effect about the impact of business activities on profitability. In contrast, Music students create a descriptive examination answer using specialised musical terms to describe relations between performing media, concepts of music and principles of composition (such as unity and contrast). Having established the disciplinary demands of an HSC writing task in Business Studies and Music in Chapters 4 and 5, the aim of this chapter is to address Research Question 2:

How do teachers address these literacy demands?

To answer this question, this chapter reports on how teachers address literacy and literacy practices in two situations: in regular classroom practice and during a collaboratively-devised intervention of two new lessons.

To contextualise the intervention, the first section draws on interview data to explore what teachers know about the literacy demands of the HSC extended response for Business Studies or the aural exam for Music. Next, everyday pedagogic practices will be briefly described, as the five teachers prepare students for the first written assessment task of Year 11. The rest of the chapter concerns preparation for the intervention and teaching of two new lessons. The effectiveness of the intervention lessons are also

explored by evaluating student writing collected from students during the intervention and in their end of year examinations.

6.2 Teacher knowledge about language and literacy

This section explores what Business Studies and Music teachers know about the language and literacy demands of the written assessments for the HSC examination.

Drawing on interview data and classroom observations, this section summarises findings from Business Studies teachers first, followed by Music teachers, and then makes some general comments about the influence of Board of Studies marking criteria.

6.2.1 What do Business Studies teachers know?

Answering the question

The first aspect of writing to be explored involves the examination answer as a whole, i.e. its genre, staging and any other whole text features. Ava, Tony and Brian, the Business Studies teachers, all affirmed that student writing must directly respond to the examination question. This may seem an obvious point, but analysis of Board of Studies Standards Packages found that many low achieving answers do not answer the question, or only answer part of the question. Answering the question in Business Studies can be a complex undertaking as questions mostly consist of multiple parts and sometimes a stimulus, such as a quote or scenario. Tony addresses the importance of answering the question in this comment:

(Students) need to be able to integrate 2 topic areas in to the one question. That's a discriminator for high fliers...they need to look closely at the stimulus... and they need to use the stimulus material properly. They need to follow the order of the question. (*Tony, Interview 1*)

In this quote, Tony shows his disciplinary understanding of the multi-part nature of HSC questions in Business Studies and he links the question with the staging of the

answer, as students ‘need to follow the order of the question’. When asked why most students did not achieve high marks in their first written assessment task, Brian states:

The main issue was that a lot of the boys didn’t read the question. Either they didn’t read it or they didn’t know how to respond to it. (*Brian, Interview 1*)

This comment indicates that Brian also understands the prime importance of answering the question. Ava too provides specific written feedback to her students about the need to ‘stick to the question’.

As a result of this input from Business Studies teachers, the first teaching point in the new lessons was devised to address the genre of an exam question, i.e. understanding the parts of a question and their function, and then how then to structure an examination answer according to the question.

Structure

The next feature commonly understood by the Business Studies teachers in the research is the importance of structuring and staging the answer. When asked about the characteristics of Band 6 writing, Ava and Tony are quick to mention the organisation of an examination answer:

...it needs to be logical, sequenced, in a sequence. (*Ava, Interview 1*)

The quality of the response – logically, if it’s well put together. (*Tony, Interview 1*)

Neither Ava nor Tony elaborate further on these comments nor specify the kind of structure required in a ‘logical’, ‘quality’ text. This is an instance of an emerging theme in the interviews – the teachers refer to literacy demands in generalised ways without elaboration, exemplification or use of explicit linguistic metalanguage.

Two of the Business Studies teachers seem to be confused between the format of an extended response and a report. In the Business Studies HSC exam, students complete two long pieces of writing along with multiple choice and short answer questions. Question 27 is an 'extended response', a generic name for a type of essay, which discourse analysis identified as an explanation genre. Question 28 is a Business Report which has descriptive sections as well as persuasive elements involving Recommendations and an Executive Summary. Brian and Tony tend to elide the format of the business report and the extended response as shown in these comments:

Just because it says it's an extended response, it doesn't mean that you have to write an essay. I think a lot of them are still treating it an essay. They're writing paragraphs and paragraphs of work. ... If you want to put it in business report format with headings and dot points and diagrams, by all means, do that. Anything that you can do to make it clear what you're trying to say. (*Brian, Interview 1*)

And I suppose in terms of the essays, telling them that it's not an essay. They don't have to write in paragraphs ... use report writing format, which is underlining, colours. I used to get some really colourful responses at marking. (*Tony, Interview 1*)

I would like to see more dot points under some of your headings. (*Tony, Feedback on student work; note: student had written using paragraphs*)

In these comments, both Brian and Tony focus on the surface features of writing, i.e. what it looks like on the page, rather than the content or meaning of the answer. Brian seems to be averse to paragraphs and actively discourages them but there is little direction on how to use headings, dot points or diagrams. Tony comments on underlining and colours as the features of business report format and also recommends dot points to a student who has written paragraphs, without explaining why dot points would add greater value to the answer. The discourse analysis reported in Chapter 4 showed that successful extended responses organise ideas in paragraphs so it appears as

if Brian and Tony are not aware of this key feature of disciplinary writing in Business Studies.

Of the three Business Studies teachers, Ava seems to know the most about the literacy demands of the subject. She reports that she tells students to reproduce syllabus points in an exam answer:

Give back the syllabus. Give back the business terms. (*Ava, Interview 1*)

Ava is the only Business Studies teacher to mention reproduction of syllabus points, which the discourse analysis found to be a salient characteristic of successful writing. Her other comments about writing are still quite vague, however, for example, her suggestions about planning the assessment task answer:

So we talked about it in the planning stage, anything you think answers it, jot it down and then organise it. So how to attack it. A bit of exam technique. You can't achieve that top band of marks unless you have a properly sequenced response. (*Ava, Interview 1*)

In this comment, there is little direction for students about how to organise an answer ('anything you think answers it').

Case studies

Business Studies teachers are unanimous in advocating that case studies need to be part of a successful answer:

(Students) need to be able to cite examples of businesses. But actually support statements with how it works in reality. (*Ava, Interview 1*)

In class, we emphasise and go over and over, use case studies. ...Case studies don't need to be in every point.... Top flight ones integrate case studies more fully. (*Tony, Interview 1*)

They need a good knowledge of the concepts but also to be able to apply it to the case studies. (*Brian, Interview 1*)

While all three teachers know that case studies must be included in an answer, they do not provide any indication of how case studies can be integrated into an answer or how to link a theoretical point or concept with a case study. In a general way, teachers showed that they knew about the causal relationship between an influence and a business activity, which Tony and Brian describe as a ‘link’:

You need to make a clearer link between internal and external influences and their impact on business... A clearer link between the businesses you examined and the external and internal influences on them needs to be made. (*Tony, Feedback on student writing*)

And that’s what I’ve been trying to do with the boys, to make the link between the content and the examples that they can use. ... I was saying to structure it, really, look at each of the external or internal influences on a business, for example location, maybe a short description of what the location is, and then bring in one of the case study articles, and talk about how it’s going to impact on the business in NSW. I said if you did that, if you structured it that way, then that’s a business report pretty much done. (*Brian, Interview 1*)

Both Brian and Tony maintain that students need to explain the ‘impact’ on business, which implies that they understand the cause and effect relationships that operate on businesses, but they do not elaborate on how to help students make the conceptual leap between knowing they have to ‘make a link’ and knowing *how* to do this in an examination answer. The other gap concerns the hidden curriculum of Business Studies. The most important ‘impact on the business’ concerns profitability, a fact not mentioned explicitly in the syllabus and not identified by the Business Studies teachers. Therefore making the implication sequence more explicit became one of the core motivators for the SPIN FX paragraph developed for the intervention lessons.

Business terminology

An aspect of disciplinary literacy that teachers understand well is the requirement to use business terminology. Brian gave the students a terminology test during the lessons I observed, and students had to match 20 business terms with their definitions. Ava describes the importance of moving the students' language from commonsense to technical lexis.

We've banned the word money. Because in business, it's not money, it's what the money is doing, so it's capital or it's cash or it's credit. (*Ava, Interview 1*)

Teachers are clear that technicality is required and they encourage students to use 'business terminology', indicating knowledge about language at the word level.

Another term frequently used by Business Studies teachers to describe student writing is 'depth', used both as a Thing ('depth of treatment') and as a Process ('to depth a response'):

The depth of treatment was not as good as it could be.... But they didn't depth it as much as they could across the whole response. (*Tony, Interview 1*)

But biggest impediment to students doing well in the Term 3 task was ... not having enough depth of detail. (*Ava, Interview 2*)

Both Tony and Ava required depth in their students' answers yet they do not describe exactly what this involves.

In summary, understandings of the literacy requirements of Business Studies were limited to general principles of answering the question, organising an answer in a logical way, and using case studies and business studies terminology. Interestingly, none of the teachers mentioned profitability as being central to the field of Business Studies. According to interview data, there was little evidence to suggest that teachers

are aware of the underlying implication sequence that is the fundamental way of reasoning in Business Studies, nor did they use any explicit linguistic metalanguage or describe specific strategies to teach these general principles of disciplinary writing. This finding is supported by the research base that has established that most secondary school teachers have little knowledge about language (Fielding-Barnsley & Purdie, 2005; Hammond & Macken-Horarik, 2001; Harper & Rennie, 2009) and that content area teachers tend to know even less about literacy and language than teachers of subject English (Milton et al., 2007). Therefore, this research faced the challenge of building a workable metalanguage based on generic features (e.g. answering the question) and what teachers intuitively know about successful answers and the Board of Studies marking criteria.

6.2.2 What do Music teachers know?

Structure

Similarly to the Business Studies teachers, the Music teachers are aware of the overall structure and organisation of a successful answer in Music. Dianne speaks specifically about structure, and the kinds of sections and headings students could use.

They need to know how to structure their answer. (*Dianne, Interview 1*)

While Dianne does not specify strategies for staging an answer in the interview, she does explicitly teach her students the two most common ways of structuring a Music answer. In this short extract from one of the classroom observations, Dianne clarifies two strategies for structuring an answer: using headings of musical sections or ‘listing the elements’ (i.e. concepts of music).

Dianne	How do structure it before we even start?
Student 1	Different sections.
Dianne	... What are the two... how can we do this? You said sections. That's a good way to do it. What else?
Student 2	Pitch... and all that. In different sections
Dianne	By listing the elements, yeah OK. (<i>Dianne, Lesson observation 1</i>)

Dianne is also adamant about the importance of answering the question:

They have to know, first, to look at the question. Everything has to relate to the question... Focusing on the question and not diverting to other elements in the music. (*Dianne, Interview 1*)

The other music teacher, Natalie, does not mention structure at all in the first interview; however, when the issue of structure is raised by the researcher in the collaboration interview, Natalie states that she usually teaches this in Year 12.

We do a thing in Year 12, and I haven't done it with these guys yet, where I give them a whole series of questions and I don't let them to listen to it, and they set out the question. And they don't answer it. (*Natalie, Interview 1*)

Strategies for staging and structuring an answer in Music became one of the topics taught in the new lesson plans. Natalie's activity idea was used as the basis for the lesson plans, i.e. where students practise structuring an answer in response to a question but without listening to an excerpt.

Music terminology

Both Music teachers recognise that the specialised terminology of Music is an important feature of successful answers.

That's what I always say to them: a musical word please. (*Natalie Interview 1*)

Terminology of course. They need to know the right terminology. I always encourage them not to say fast, but to use the appropriate term for fast. (*Dianne Interview 1*)

While both teachers acknowledge that subject specific language is important, they are reluctant to teach musical terminology in a systematic way. Dianne seems to believe that her students should already know all the terminology they need, as they learnt it in earlier grades.

I used to have an aural list with all the elements and the dot points of things they can discuss. That obviously works well. But then come Year 11, I stopped using it because I wanted them to get used to the fact that they can't rely on having.... I wanted them to... to study it at home and start memorising it. (*Dianne, Interview 1*)

According to Dianne, teaching features of each concept of music is a form of 'spoon feeding' which senior students should not require. As self-motivated learners, her students should stop relying on her and 'start memorising' at home. What the students should memorise is unclear as Dianne does not use text books and there were no 'aural lists' in her classroom that she could show me. Her regular pedagogical practice is drilling of past HSC answers. Students listen to excerpts of music from past HSC examinations and complete answers, with verbal prompting from Dianne.

If you start from Year 9 and you drill into them, by the time they get into Year 11 they're confident enough. (*Dianne Interview 1*)

This method of teaching indicates that Dianne feels the students already have a command of the content knowledge and literacy practices of Music and they only need to practise answering different types of questions related to different musical styles and excerpts. The fact that Dianne's students were not consistently achieving results in the top mark bands suggests that drilling is not a failsafe method for exam preparation.

Natalie is also reluctant to provide explicit teaching of musical terminology as it conflicts with her constructivist/progressivist teaching approach, where students have to build knowledge for themselves and the teacher is more of a facilitator of learning.

You ... don't have to have everyone having a mind map of the concepts of music. ... We're not going to hand out 'here's your bible' like most people do. 'Here's your concepts, deal with it.' There's a lot of paper and a lot to digest on their own. ... I'm very hands on and they have a lot of fun ... I do heaps of group work to take the pressure off the individual. (*Natalie, Interview 1*)

This comment shows that Natalie advocates group activities, games and 'fun' instead of handing out paper and teaching the concepts of music explicitly. In Natalie's class, teaching about concepts of music is contingent and unplanned, whenever it comes up in a lesson. To teach the concepts of music, Natalie refers students to words arranged in random patterns on the back wall of the classroom.

That's what I always say to them: a musical word please. They're all over my walls. I don't spend a lot of time, this is the definition, write that down. They'll give me a sentence and I'll say, replace this word, give me a better word, find one, it's on the wall, it starts with D, it has three syllables. (*Natalie, Interview 1*)

A segment of Natalie's wall, concerning the concept of duration, is shown in Figure 6.1. Wordings from the syllabus have been printed out on coloured paper, laminated, then attached to the wall. The name of the concept, duration, is capitalised and placed in the centre. Arrayed outwards from this central word are other terms related to duration. Wordings in a larger font on the wall include 'beat', 'rhythm' and 'metre', none of which is defined or related to the words closest to them. For example, 'triple metre (pulse of three)' (in the box) at the bottom of the picture is a wording that is clearly related to metre, yet it is spatially placed far from 'metre' in the top left position of the array.

Music images and graphic notation

In terms of images and graphic notation, only one of the Music teachers teaches these explicitly. Natalie teaches students how to draw a pitch contour in the lessons I observed, and she regularly refers to them in interviews.

The drawing thing. I think that's really valuable. (*Natalie, Interview 1*)

While Natalie teaches students to use images and notation in their answers, she only refers to two names for types of diagrams. She calls the pitch contour a 'line drawing for melodic shape' and she also mentions tables.

A lot of line drawings for melodic shape. Most of them come in without having read music. so we do dots and dashes for duration - a dot for a short note and a dash for a longer note. And beat numbers. A lot of them, they can feel the pulse now, but they couldn't draw crotchets and quavers to save their life. So drawing the beats, Xs or lines, or whatever works for you, but label it. Tables. A lot of structure and texture. (*Natalie, Interview 1*)

Natalie gives the students extensive freedom to do 'whatever works for you', rather than teaching types of notation.

In contrast, Dianne does not teach diagrams and is opposed to using some of the more commonly used ones such as a texture diagram.

I struggle with, what can I get them to draw, like thick to thin, as opposed to them explaining what kind of texture it is. I don't really know if I want them to waste time on it, shading in a texture diagram. Duration and pitch wise definitely, but... (*Dianne, Interview 1*)

In principle, Dianne permits students to use traditional rhythm and pitch notation, but research shows that only students with a background of formal theory training tend to be able to use traditional notation in this kind of examination (Jeanneret et al., 2001).

Dianne admits that use of notation is up to the judgement of the individual student and whether they feel confident and 'comfortable' to do it.

I tell them when they can. If they have a question about duration, if they can notate and they're comfortable in doing so, do it. (*Dianne, Interview 1*)

Music images and diagrams are not compulsory, so Dianne's reluctance to teach them is not necessarily problematic. Nevertheless, as argued in Chapter 5, musical images are useful semiotic resources for Music examination answers, so the researcher negotiated successfully with Dianne for her to trial teaching of one of the diagrams in the two new lessons of the intervention.

Elaborate / examples

Each of the Music teachers tends to rely on a particular phrase when giving feedback to students on their answers. Dianne constantly talks about the need to 'elaborate' while Natalie requires 'examples'. Dianne repeatedly urges students to write more yet she does not provide instructions on how the student could do this.

Yes but give more info ... A few extra details for your findings. ...WRITE MORE! ELABORATE!!!! (*Dianne Feedback on student work*)

Dianne does not expand on the meaning of 'elaborate' and there is little evidence that she understands the linguistic meaning of this term, as an expansion strategy that involves 'restating in other words, specifying in greater detail, commenting, or exemplifying' (Halliday & Matthiessen, 2004, p. 378). Instead, Dianne seems to think that 'elaborate' refers to the quantity of points, as shown in this comment about one of her students.

It's like he's afraid to elaborate. In class he goes on and on but he doesn't do it in his writing. (*Dianne Interview 1*)

This comment suggests that elaboration is to 'go on and on' rather than to develop one idea. From a student's perspective, this comment may not be helpful as it is possible that students do not know what else to write. As a consequence, the making a point

teaching strategy was designed for the intervention, in order to assist students in focusing their listening and expanding ideas in a way that is valued by markers.

Natalie insists on the importance of using ‘examples’, which is a term used in Board of Studies marking criteria:

Then we started ... saying that the statement doesn’t make any sense without an example. (*Natalie, Interview 1*)

There is a lack of specific examples; be more specific ... Your observations are generally accurate, you now need to start supporting them with specific examples. (*Natalie, Feedback on student work*).

When probed further, Natalie revealed that the term ‘example’ referred to a particular timing point in the music.

So you’re not the winning team unless you provide a diagram, or a specific reference, to a bar, a second reference, or something like that. ... Specific reference may be to an instrument, or if it’s a vocal, use the lyric so you’ve got something concrete. (*Natalie, Interview 1*)

As found in discourse analysis, successful answers link a finding to a specific timing point in the music, such as a section (e.g. ‘in the introduction’) or, as Natalie states, a lyric (e.g. when the vocals sing a particular syllable). Thus, rather than using the term ‘example’, reference to ‘time’ became one of the strategies of making a point included in the lesson plans for the intervention.

In summary, Music teachers understood that students needed to use musical terminology, yet they were reluctant to teach students explicitly about the concepts of music. Each teacher had developed understandings about some but not all aspects of successful writing. For example, Dianne knew about the importance of structure and Natalie knew about how images can be used in an answer. In attempting to build on

teacher knowledge, these two areas were included in the intervention lesson plans, along with the three most important features of successful answers determined in discourse analysis: connecting an answer to a specific time in the music, and making a finding that refers to concepts of music and to principles of composition.

6.2.3 Reliance on Board of Studies marking criteria

Teachers in both Business Studies and Music tend to rely on the wordings in Board of Studies marking criteria. While this is understandable and shows that teachers are following the ‘rules of the game’ set by the educational authorities, the Board of Studies has not necessarily created a useful metalanguage for teaching disciplinary literacy. Typical marking criteria for Business Studies uses terms such as ‘logical’ and ‘cohesive’ as shown below:

In your answer you will be assessed on how well you:

- demonstrate knowledge and understanding relevant to the question
- use relevant business case study/studies
- communicate using relevant business terminology and concepts
- present a sustained, logical and cohesive response

(Board of Studies NSW, 2011, p. 14)

In these criteria, requirements for assessment are generalised, with each criterion representing the combination of a number of linguistic features. For example, a ‘sustained, logical and cohesive response’ can be achieved through the successful deployment of several language resources across metafunctions, including macroThemes and hyperThemes for thematic development (textual metafunction), conjunctions and text connectives for logico-semantic cohesion (logical metafunction), and the building of activity sequences and taxonomies for lexical cohesion (experiential metafunction). Even wording in simpler criteria such as ‘use relevant business case study/studies’ does not make clear what it means to ‘use’ a case study, how often the case study should be referred to or how it should be incorporated in the answer.

In Music, there are no marking criteria listed on the examination paper, but the Board of Studies publishes the marking guidelines that were followed by markers in the evaluation of each year's examination answers. In 2010, for example, to achieve a top mark band in a question about pitch and duration, a student needed to meet these criteria:

Describes in detail the use of pitch and duration in the excerpt, and selects appropriate examples to support response.

Demonstrates a high level of aural understanding using well-supported observations, including detailed descriptions of musical events. Answer may contain some inaccurate observations. (Board of Studies NSW, 2010, p. 2)

In these criteria, concepts identified in the question are to be described 'in detail' yet there is no specification as to the level of technicality required or how many observations are expected in order to achieve a result in the highest mark band. It is not clear how students demonstrate 'a high level of aural understanding' or how students should 'support' their observations. The criteria merely insist on 'examples' to support comments, a term used extensively by Natalie.

In these ways, marking criteria for Business Studies and Music seem to be inadequate for providing students with explicit and specific guidance on the characteristics of successful writing, an aspect of the hidden curriculum that this research strives to expose. Initial interviews with teachers and classrooms observations helped to establish teacher starting points for the intervention stage of the research and to identify teacher metalanguage that could be extended or built on in the new lessons. Some of these areas have already been addressed above, namely:

- answering the examination questions (Business Studies)
- structuring an answer (Business Studies and Music)
- linking a case study with theory (Business Studies)

- linking a musical finding to a specific time (Music)
- use of diagrams and graphic notation (Music)
- using subject specific terminology (Business Studies and Music).

In order to build a more specific and explicit metalanguage around these points, the researcher adapted the research map (Chapter 4) in order to design to a pedagogic rubric. The purpose of the rubric was, first, to provide teachers and students with a more explicit alternative to Board of Studies marking criteria, and, second, to include guidance about how to achieve desirable features of writing, including a ‘logical structure’. The next section will describe how the pedagogic rubric was developed.

6.3 Pedagogies for preparing students for writing

Classroom observations of two or three lessons for each teacher explored how teachers prepare students for written assessment tasks as part of regular classroom practice. The main finding was that there was little or no writing undertaken by students as they prepared for their first written assessment task.

Instead of writing practice, Business Studies teachers relied heavily on the assessment notice sheet as the main means of preparing students for assessment tasks. The Board of Studies mandates that assessment notice sheets must be provided to students before an assessment task in senior schooling. The assessment notice sheet must contain:

- name of task
- due date
- weighting as a percentage of the yearly assessment program
- outcomes addressed
- description of task

- marking criteria.

The notice sheet does not contain any information about the structure or features of the answer students must compose. To prepare students for the task, each of the Business Studies teachers read the assessment notice sheet aloud, which took around 20 minutes. The students asked a few questions, then they moved directly to the research stage of the assignment, to gather data on case studies. Students used the internet to search for information about Australian companies and went to the library to find articles from business magazines such as *Business Review Weekly*. This was the only explicit preparation for the written assessment that students received and the structure of the answer and its features were not discussed further in class. As Brian said, ‘if students have questions, they can see me privately’. (See Appendix C for notice sheets for Business Studies.)

In Music, teachers did not hand out notice sheets before the aural examination. Instead, Natalie’s class participated in a number of activities where they listened to a variety of musical excerpts and moved around the room and verbally responded to her questions. There was no writing at any stage of the lesson and no writing at all in Natalie’s regular classroom practice. The only teacher who undertook writing activities with her students was Dianne who drilled students with past HSC papers. In these lessons, Dianne did not model the answers. Instead, students listened to past HSC musical excerpts and answered past HSC questions while Dianne sat at the front of the room with the Board of Studies ‘sample answers’ in front of her, prompting the students with questions and suggestions.

The lack of writing practice is a common feature of contemporary education and with the exception of Dianne’s class, the teachers are typical in this regard. Recent research

in secondary school Biology and History found that ‘teachers talk but never model writing for their class’ (J. R. Martin, 2013, p. 34) and this lack of writing practice is supported by other studies (Christie, 2005; Cumming & Wyatt-Smith, 2001). However, there was evidence that students participating in this research needed more assistance in writing. None of the students in any of the Business Studies or Music classes achieved a Band 6 result in their first assessment task (i.e. a mark equivalent to 90%+). Results were evenly spread from a lowest mark of 50% upwards, with the highest mark at 81%. These results show that all students had room for improvement. These results provided scope for suggesting a new way of teaching based on supporting students with how to write as well as providing them with opportunities to practise writing. These challenges were taken up in the intervention, described below.

6.4 The literacy intervention

6.4.1 Principles of the pedagogic rubric

The purpose of the new intervention lessons was to teach explicitly several features of successful writing in Business Studies and Music. It was decided to convert the research map of linguistic features of successful writing (from Chapter 4) into a teacher friendly and student friendly rubric – a ‘pedagogic rubric’. The pedagogic rubric would be used as the basis for discussion about features of successful writing with teachers, and it would be used as the basis for the two new lesson plans. Also, I used the rubric to evaluate student work after the intervention. In this way, the rubric was a kind of bridge between linguistic theory and classroom practice.

Several criteria were used as a basis for the selection of elements to be included in the pedagogic rubric. Firstly, criteria were based on the principle of ‘picking the low hanging fruit’, that is, trying to focus on the most salient, important features that would

be relatively easy for teachers to teach and for students to learn in a short time frame. As it was not possible to teach everything in two lessons, only three or four areas were selected, based on ideas raised by teachers in interviews and on the researcher's evaluation of the most important linguistic features of disciplinary writing.

Disciplinary and linguistic goals had to be considered equally. It was intended that the new lessons would not only teach knowledge about writing but also teach knowledge about the subject content. In this way, the lessons would meet both content and language learning objectives, an important feature of effective literacy interventions in subject areas. Teaching of literacy has to be 'embedded' in the disciplinary discourse (J. R. Martin, 2013) and the metalanguage used in this teaching also had to be carefully constructed, because 'to be meaningful, the learning of metalanguage needs to be situated in instructional contexts where it resonates with and helps support content goals' (Schleppegrell, 2013, p. 158). In Business Studies, the content goals involved understanding the syllabus topic and dot points and exemplifying these in a case study, while in Music, the content involved the concepts of music and their features. These content goals were then linked to a literacy goal, that is, to answer an examination question in the HSC examination. To achieve this synthesis of disciplinary and literacy objectives, the most significant part of the intervention and the pedagogic rubric was designed around the idea of making a point.

6.4.2 Making a point

As briefly mentioned in Chapter 4, the idea of making a point derived from a research project in academic literacies (Humphrey & Dreyfus, 2012). In their SFL based research, Humphrey and Dreyfus outlined a series of stages in 'making a point' (2012, p. 163). As further support for using the 'point' metalanguage, Business Studies

teachers often referred to student ideas as ‘points’. Sometimes, they referred to ‘dot points’ in the syllabus but at other times, they used ‘point’ in a rhetorical sense, meaning a ‘distinctive trait, characteristic... the essential thing’ (Point, 1987):

‘Then in your conclusion, you need to make a point’ (*Ava, Interview 2*)

‘Case studies don’t need to be in every point’ (*Tim, Interview 1*)

‘(Students need to) just to be concise and to the point’ (*Brian, Interview 1*)

In the pedagogic context, it was also hoped that teachers and students might be energised by the idea of making a point, as a way of integrating subject content and linguistic knowledge. In the analysis to follow, the moves in making a point in Business Studies and Music are explained, along with other features of the pedagogic rubric.

6.4.3 Developing lesson plans and a pedagogic rubric in Business Studies

To take into account the time constraints of two new lessons, and in collaboration with the teachers, four teaching points were developed for the new Business Studies lessons:

1. understanding the exam question
2. planning your answer
3. using business terminology
4. making a point.

To support these four teaching points, and to enable evaluation of student work before and after the intervention, the research map of disciplinary linguistic features (Table 4.20 in Chapter 4) was synthesised and condensed into five features: structure, case studies, syllabus points, paragraphs and business terminology. Each of these features will be explained below, followed by a diagram of both the research map and the pedagogic rubric, as well as how they relate.

Structure

The linguistic resources of textual meaning are encoded in the rubric feature of ‘structure’. In the pedagogic rubric, this criterion refers to the thematic unfolding of successful answers, with carefully structured macroThemes and hyperThemes that signpost topics and ideas. Each part of a multi-part examination question requires a separate explanation text, as demonstrated in the exemplar answer analysed in Chapter 4. Consequently, the indicators for ‘structure’ include ‘answers each part of the question with equal weight’ as well as ‘uses headings – syllabus points’. The genre of explanation was not covered explicitly in the intervention or rubric due to limited time and the fact that the cause and effect relationships that characterise an explanation were built into the paragraph structure model used for making a point.

Case studies

Case studies are critical components of a Business Studies exam answer, as recognised by the teachers in this research. As a result, case studies have been included in the rubric in two places – as examples in a paragraph and also as a separate criterion. These parts of the rubric address the linguistic features of lexical chains, including repeatedly naming case study companies, and in the parallel implication sequence fundamental to Business Studies, where case studies exemplify the way business activities result in profits. In some Business Studies assignments, students are required to complete detailed research on a particular business. As a result, the pedagogic rubric includes an indicator to make explicit the need for students to write a summary about the business and its needs, in a short descriptive stage within the overall explanation genre.

Reproduce syllabus points

As exemplary Business Studies HSC answers frequently and consistently reproduce syllabus points word for word, this feature became a separate criterion: ‘reproduce syllabus points’ with a direction to count the number of dot points. This indicator makes it possible for teachers and students to consider how many points have been transferred from syllabus to student writing, as the more points that are mentioned, the higher the potential marks. From a linguistic perspective, the reproduction of syllabus points automatically involves the transfer of prepackaged grammatical metaphor (such as ‘cushioning economic cycles’) directly from the syllabus dot points to the student’s text. Nominal groups containing classifiers presented in syllabus dot points and textbooks (such as ‘transnational corporations’) can also be directly transferred. This feature is also covered in the rubric criterion of ‘business terminology’ which reminds students to use terminology and wordings from the syllabus, rather than everyday language.

Making a point

Making a point when writing in Business Studies includes composing parallel implication sequences, where a business takes action for the purpose of generating profits and a parallel case study does too. This aspect of the hidden curriculum is represented in many aspects of the research map: in experiential meaning (in lexical chains and in analysis of nuclear relations) and in logico-semantic meaning, that is, the three relations of hypotaxis: enhancement, conjunction and expansion. These aspects of disciplinary meaning have been integrated into a disciplinary paragraph scaffold. The parallel implication sequences have been rephrased using headings for each section and a mnemonic device: SPIN FX where each letter represents a functional move in a paragraph:

SP means ‘syllabus point’

IN means ‘in other words’, the elaboration move

F means ‘effect on the business’, the enhancement move

X means ‘example’ or case study, the exemplification move.

The SPIN FX mnemonic addresses the parallel implication sequences, encompassing four functional moves. In the ‘F’ or ‘Effect on the Business’ part of the mnemonic, there are two related effects: to grow and increase profits and to reduce costs. These two objectives are related as cost minimisation can improve the chances of profitability but they have been included as successful students refer to both. It would be expected that students use SPIN FX paragraphs for the ‘body’ of their extended response, but not for the introduction or conclusion.

Business terminology

The research map foregrounds the importance of technicality, and the use of classifiers and grammatical metaphor in Business Studies writing. While there was insufficient time in the two lesson intervention to teach technical terminology in a systematic way, one criterion in the pedagogic rubric is dedicated to business terminology, to remind teachers and students of its importance.

The original research map is placed on the left and the pedagogic rubric on the right in Figure 6.2, with arrows that show how linguistic features presented in the research map have been transformed and integrated into the teacher and student version.

Research map of disciplinary linguistic features
Business Studies extended response (from Table 4.21)

Pedagogic rubric : Business Studies Extended Response

Genre of the question		2 part questions are common; each part answered separately	Structure	Answers each part of the question with equal weight.
Genre and staging		Explanation (factorial and consequential) Phenomenon to be explained ^ Explanation		Uses headings – syllabus points
Textual meaning	Theme, hyperTheme, macroTheme	Headings: syllabus points (word for word) macroTheme in Introduction hyperThemes in topic sentences	Case studies	Case studies support statements. Maximum one paragraph of background information about case study
Experiential meaning	Lexical chains	1. business 2. case study companies 3. growth/expansion 4. profit/cost	Reproduce syllabus points	Syllabus points are included exactly as worded in syllabus • number of syllabus points
	Types of entities Nuclear relations	technicality – use of classifiers grammatical metaphor prepackaged from syllabus points business as agent medium is process of growing/expanding nuclear is profits/costs peripheral – location of business activities	SPIN FX Paragraphs	SP Syllabus point
	Activity sequences	implication sequence: purpose of business is to make profits	These elements appear in each paragraph:	IN ... which means that F Further effect on business As a result the business was able to:
Logico-semantic meaning	Taxis Conjunction	hypotaxis enhancement addition consequence purpose consequence cause		grow, increase profits reduce costs
	Expansion	elaboration and enhancement		X Example – go through SPIN F again in relation to a case study
Interpersonal meaning	Mood, modality, appraisal	Positive appreciation of profits and success; negative appreciation of costs; some modality; no use of first person	Business terminology	Business terminology is used (not everyday words)
Summary – functional stages in making a point		Syllabus point Elaboration Purpose (to make profit) Case study exemplification of syllabus point Elaboration Purpose (to make profit)		

Figure 6.2: Business Studies – converting the research map into a pedagogic rubric

Development of lesson plans for the intervention

This section briefly describes the plans for the two intervention lessons. The sequence of teaching and learning activities was based on the Teaching and Learning Cycle (Rothery, 1994). Firstly, any new content areas were modelled or demonstrated by the teacher (modelling), followed by a sequence of activities where students were provided with support from the teacher (joint construction) until they could complete a task unaided (independent construction). The lesson plans for all three Business Studies classes covered the same focus areas: understanding the exam question, planning your answer, using business terminology and making a point. Each student was provided with a handout containing written activities for the lesson (see Appendix C).

The first lesson consisted of three activities. Firstly, students were provided with a list of ‘mock’ examination questions which they had to analyse for their functional components. This approach drew on University of Sydney Learning Centre resources (Webb, 1991), which identify the parts of an essay question: scenario, proposition, instruction and scope. This material was highly relevant because Business Studies questions often have complex stimulus material, including a scenario or proposition. Students were given a series of exam questions which they had to analyse for their different parts and purpose.

The next step was for students to evaluate two plans to answer an examination question. The plans were provided in the handout, each one with a different structure. Following this activity, students were required to modify one of these plans and develop an alternative plan that gave equal weight to each part of the question. In this activity, students had to devise section headings for the answer to an examination question and allocate a number of words to each section. The purpose of this activity was to highlight

the need for students to answer all parts of an examination question, to allow enough time for them to do so, using their headings for each section.

As a ‘brain break’ for the students, and to demonstrate the importance of business terminology rather than everyday wordings, a competition was held for the students. Groups of students had to think of as many business words as possible as alternatives to the everyday terms ‘money’ (e.g. cashflow, finances, expenditure, etc.) and ‘people’ (customers, target market, etc.) The winning teams read their list of business words to the class.

The remainder of class time in the intervention (at least one out of two lessons) was spent on learning how to make a point. This involved teaching SPIN FX paragraphs, a mnemonic device for the parallel implication sequence that encapsulates many important aspects of disciplinary reasoning, including the importance of cause and effect patterns, the primacy of profits in motivating business activities, and the use of case studies to support theoretical points derived from the syllabus. The lesson sequence was developed to give students experience in writing a SPIN FX paragraph using the parallel implication sequence and it was designed around the content being taught at the time of the intervention. In Ava’s class the content being taught was ‘Establishment Options’ and in Brian’s and Tony’s classes, it was ‘Competitive Advantage’.

In the Modelling stage, students were reminded about their current topic and I introduced case studies that would be used for the lesson. The students read some information about the case studies and discussed them briefly as a class. Then I introduced and explained the SPIN FX mnemonic and the model as a grid on the board. Reading a SPIN FX paragraph that had already been prepared, I modelled how the

stages of a SPIN FX paragraph fitted within the table, and wrote the stages in each box, with the theory on the top row and the case study on the bottom row. An example of the first SPIN FX paragraph completed on the board during the lesson is presented in Figure 6.3. The syllabus point covered in this paragraph involves advantages of starting a new business ‘from scratch’, rather than buying an existing business or a franchise. The case study is a restaurant, started from scratch by a woman, Madhu. Students were provided with a summary of this case study in their handout (see Appendix C).



F

	SP	IN	F
	Syllabus point Sub point	In other words	Effect on the business
	There are many advantages to starting from scratch.	The owner has complete freedom and no boss, he or she can start small and control growth. There is no goodwill to pay for.	This means that the business can minimise costs in the start up phase.
X	Example Madhu decided to start a business from scratch for her new restaurant.	She wanted to be creative and create new dishes and not to have to answer to a boss. This gave her more independence	and enabled her to control her costs.

Figure 6.3: SPIN FX paragraph used in the modelling stage of Business Studies intervention in Ava’s class

Following two modelling sequences, students were asked to fill in another table based on a paragraph in their handout, and then finally to devise a SPIN FX paragraph on their own. The lesson concluded with a summary of the key writing points in the pedagogic

rubric, included in the student handout. Student writing completed during the intervention and in the final assessment task will be explored below.

6.4.4 Analysis of student writing in Business Studies

The writing of seven students from Tony's and Ava's classes was analysed. These students were Luke, William, Jacqui, Kirsten, Poppy, Carla and Aaron.

Analysis of student work during the intervention

The first writing samples that were analysed are the SPIN FX paragraphs completed by students during the independent construction stage of the intervention lessons. At this point, students had been exposed to the SPIN FX model for creating a paragraph in the modelling stage, and they had participated in joint construction of three SPIN FX paragraphs.

In Tony's class, students were directed to write about the topic of competitive advantage, which is about how a business can differentiate and stay ahead of other businesses in the same market. Students were asked to write about technology as a way of reducing prices and costs (a 'price/cost strategy') which can help businesses achieve competitive advantage. Luke's SPIN FX paragraph, created towards the end of the intervention lesson, shows that he has been able to construct a parallel implication sequence in the manner of other successful HSC writers. He clearly restates the syllabus point (reproduced from the stimulus material in the handout), elaborates on the point and explains the effect of technology on lowering costs. In a parallel move, Luke then follows the same sequence for the case study, IKEA, the furniture manufacturer and retailer which uses technology in the form of furniture flat packages in order to achieve an effect of 'lower costs and higher profits'. His successful SPIN FX paragraph is shown in Figure 6.4.

	SP Syllabus Point	IN In other words	F Effect on the business + increase profits - minimise costs
	One way of achieving competitive advantage is through technology.	Technology can improve efficiency	which results in lower costs.
X Example	Ikea is very competitive in the market due to its use of technology.	Ikea flat packs are a form of technology that saves costs in transport and storage	leading to lower costs and higher profits.

Figure 6.4: Luke’s SPIN FX paragraph during Independent Construction

Similarly, William also creates a SPIN FX paragraph about technology (see Appendix C). Both William and Luke have created these SPIN FX paragraphs without any prompting or support from the researcher, although other students in the class did receive support to help them fill all of the boxes in the SPIN FX table correctly.

In Ava’s class, in contrast, the subject content is ‘Establishment Options’, which are the methods for starting a business. The five participating students from Ava’s class create a SPIN FX paragraph effectively, with teacher support. One case study used in Ava’s class is a study of a cafe called ‘Urban Grooves’. Poppy’s correctly structured SPIN FX paragraph is shown in Figure 6.5.

	SP Syllabus Point	IN In other words	F Effect on the business
	If you buy an existing business, existing employees can be resentful of change and provide poor service.	Excellent customer service is very important in a service business like a cafe	so poor service can impact profits and increase costs.
X Example	Matthew Faux’s Urban Grooves cafe was an existing business and it already had several employees that came with the business.	The existing employees were resentful and gave poor service and it took him a year to find better employees	which stopped him from making more profits.

Figure 6.5: Poppy’s SPIN FX paragraph during Independent Construction

While Poppy completes this paragraph independently, another student, Jacqui, receives assistance to create a SPIN FX paragraph correctly. Jacqui had left some sections of her table empty, so I intervened and suggested that she needed to think about the third box in the lower row of the SPIN FX table: the effect of poor employees on the business. With this prompting, Jacqui fills in the final box in the table, ‘which caused him to lose profits’, shown in Figure 6.6 in bold.

	SP Syllabus Point	IN In other words	F Effect on the business
	One disadvantage of starting your own business is that you have to get your own employees.	Good customer service is very important for a restaurant as good employees can help improve profits.	
X Example	Matthew found it hard to attract the right staff for more than a year.	His business had bad employees and poor customer service	which caused him to lose profits.

Figure 6.6: Jacqui’s SPIN FX paragraph during Independent Construction

By the end of the lesson, all students in the class had completed at least four SPIN FX paragraphs. By having two teachers in the room, the researcher and the class teacher,

Ava, it was possible to check the writing of every student in the class. Even though some students needed additional support during independent construction, by the end of the lesson, all students were able to write a SPIN FX paragraph correctly. In this process, all students were taught about the underlying implication sequence of Business Studies including the importance of profitability.

The next stage of this analysis evaluates student writing after the intervention, during the end of year examinations. The purpose of the analysis is to find out if student writing reflects any of the language features taught in the intervention.

Analysis of student writing in the end of year examination

In the end of year examination, students from all three classes and both schools were given a similar examination question. Students were required to read a scenario about a case study, to respond to a question in three parts and to make recommendations to potential business owners about the best establishment option for a new business, outlining regulations to consider and factors that will potentially lead to business success or failure. Overall, this genre is a business report, which was not addressed in the intervention. Nevertheless, one part of the examination instruction did require an explanation. Tony's class were required to 'Describe the benefits of establishing a new business, as opposed to buying an existing business' and Ava's class were asked to 'Discuss the factors that are likely to influence the success and/or failure of a small business'. Both of these instructions require answers written as explanations and, therefore, have the potential to generate implication sequences (or SPIN FX paragraphs) in the answer. Consequently, these aspects of student answers are examined in detail.

Overall, the only criterion of the pedagogic rubric that was met consistently by students was the ‘answer each part of the question with equal weight’. Most students addressed each part of the answer, with many using headings to separate the different parts of their answer. For some students, this was an improvement on their writing in the first assessment task at the beginning of the year, when teachers had identified that structure was a problem. In Tony’s class, William’s answer was loosely based on the order of the examination instructions, in three parts, although his headings did not correspond exactly to the instructions. William’s answer was organised by a series of headings which were more or less related to the three parts of the examination question, although with more focus on the first instruction rather than the second and third instructions. The three part examination instructions, with arrows pointing from the instruction to the relevant headings in William’s answer, are shown in Figure 6.7:

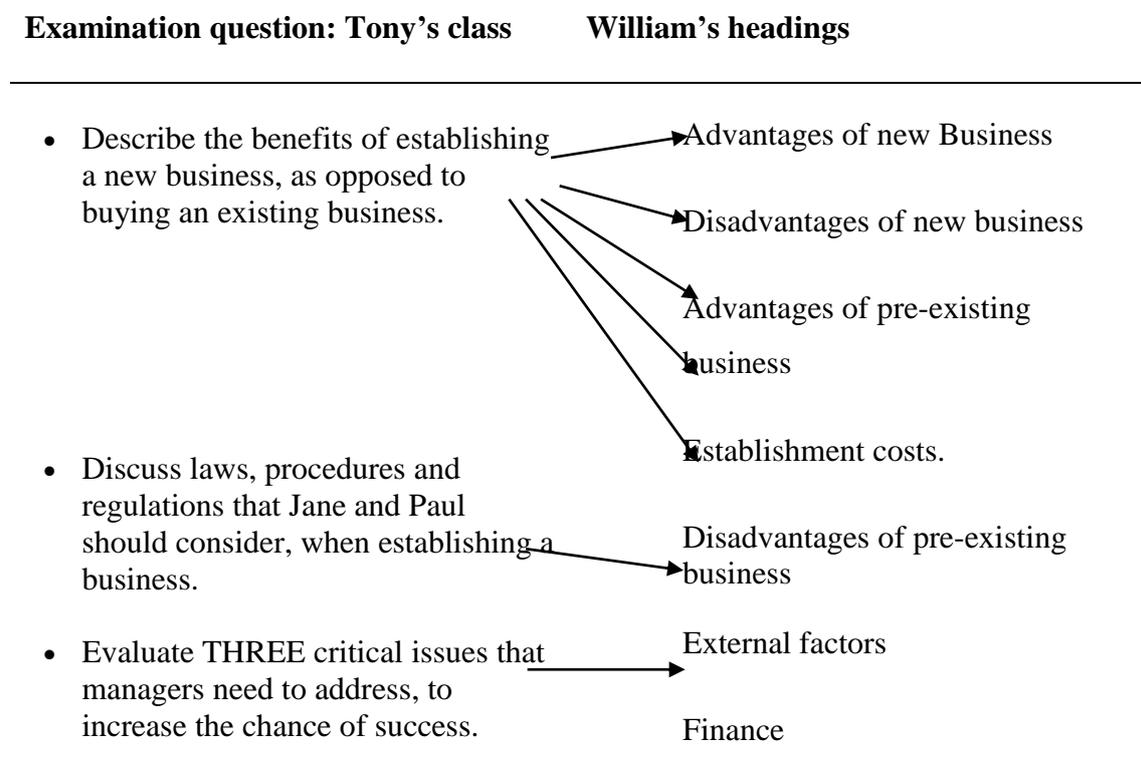


Figure 6.7: Relations between the three part examination question and William’s headings

In Ava’s class, Poppy creates three headings, one for each instruction in the examination question, and weighted her answer evenly. Figure 6.8 shows the three part examination instructions, with arrows pointing from the instruction to the relevant headings in Poppy’s answer:

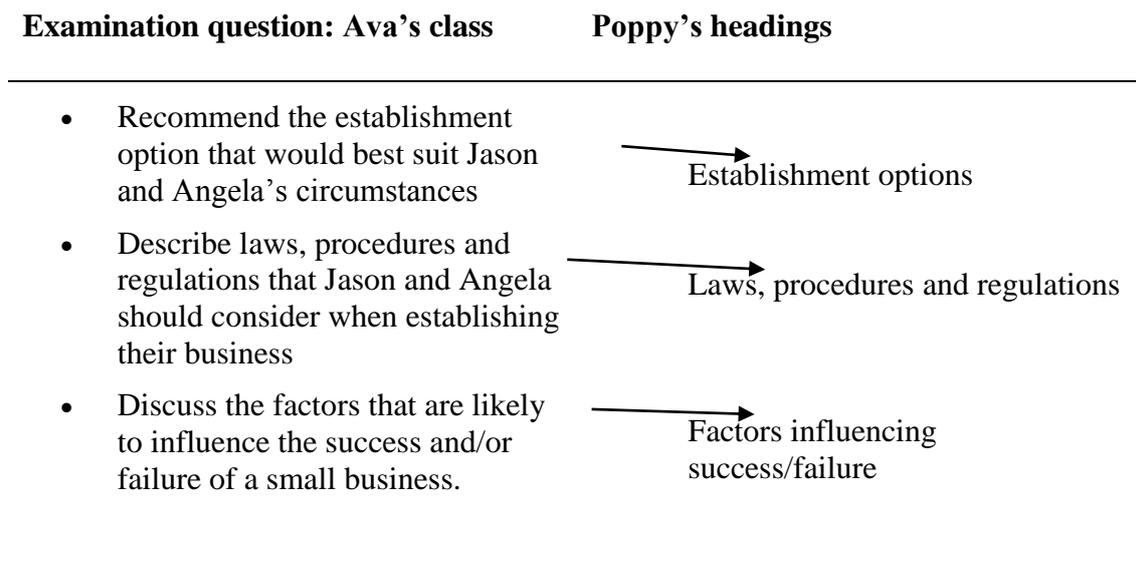


Figure 6.8: Relations between the three part examination question and Poppy’s headings

Poppy’s headings are far clearer than William’s headings. Where William has created his own wordings for headings, wordings that are not clearly connected to the examination instructions, Poppy created clear hyperThemes to structure her answer, with wordings taken exactly from the examination question. This is one of the successful staging strategies noted by teachers in interview data.

There were, however, few other features of the pedagogic rubric criteria evident in the examination answers. One student, Luke, from Tony’s class, was able to approximate a SPIN FX paragraph. His answer contained one instance of an explicit implication sequence, beginning with a heading addressing the first examination instruction:

‘Benefits of Establishing a new business, as opposed to buying an existing business’.

Under this heading, Luke’s second point is:

- Buying a business with a bad reputation
Customers won’t come in and therefore profits won’t be made.
(*Luke, Excerpt 1 end of year examination*)

With this point, Luke constructs an implication sequence, explaining that if a business has a bad reputation, there is a negative impact on profitability: ‘profits won’t be made’. Although somewhat clumsy in construction, this is the only example of a SPIN FX type construction with an ‘effect on the business’ that could be identified in either of the two answers from Tony’s class. When asked if the intervention lessons had any influence on student writing, Tony replied in the negative:

I don’t think I noticed any impact or any change. (*Tony Interview 2*)

When probed further, Tony stated that he had not covered any of the same teaching points again, as ‘it didn’t really come up’, and that the students saw the intervention as a ‘one off’ and not part of regular ‘ongoing’ teaching and learning in the subject.

It didn’t really come up. We might have revisited it in terms of just stuff to go back over, with a view to revision. But um, those boys being those particular boys, they didn’t really bring it up again, in terms of the input you provided. I think they saw it ... I guess for them they saw it as a one off as opposed to something which was ongoing that could be integrated into learning their stuff.
(*Tony Interview 2*)

As Tony had not mentioned the SPIN FX paragraphs again in class after the intervention, it is not surprising that his students did not use the strategy in their end of year examination. They had not had the chance to practise it again after the intervention. As will be explored in Chapter 7, Tony believes that Business Studies students have limited motivation and limited capacity to learn, perhaps explaining why he was not engaged in the intervention and why he did not mention the SPIN FX paragraphs again

before the Year 11 exams. Tony's attitudes and beliefs, as well as those of the other teachers in the research, are explored in detail in the following chapter.

Ava's students also constructed a report in their end of year examination, answering three instructions about establishing a new business. Each student in Ava's class – Kirsten, Poppy, Jacqui, Carla and Aaron – answered each part of the question with roughly even weighting, as illustrated above in Poppy's example. No students, however, constructed a full SPIN FX paragraph. Poppy did not construct any aspects of SPIN FX paragraphs in her answer, and Kirsten and Carla did not separate their ideas into paragraphs at all, constructing one sentence statements about each syllabus point, perhaps due to lack of time in the examination. As a consequence, the paragraphs written by the remaining students – Jacqui, Carla and Aaron – will be analysed.

Jacqui's writing shows elements of two SPIN FX paragraphs. The syllabus point Jacqui has chosen to address is the same one covered in the intervention lessons, described above, where Jacqui required assistance to describe the impact of poor customer service on profitability. This time, Jacqui is far more specific about the link between poor service and profits.

Employees are the personality of the business. Their enthusiasm, skills and communication attract consumers. However, employees with a bad work ethic and poor skill base will not attract customers, meaning that sales for business will drop. (*Jacqui, Excerpt 1 from end of year examination*)

Jacqui has specified an influence on the business: lost sales, with the implication of lower profits. Arranging Jacqui's answer in the SPIN FX table in Figure 6.9 shows clearly how she has constructed one implication sequence, without explaining how poor customer service might be related to the case study.

	SP Syllabus Point	IN In other words	F Effect on the business
	Employees are the personality of the business	Their enthusiasm, skills and communication attract consumers. However, employees with a bad work ethic and poor skill base will not attract customers,	meaning that sales for business will drop.
X Example	-	-	-

Figure 6.9: SPIN FX paragraph from end of year examination: Jacqui Excerpt 1

This example shows that Jacqui needs more practice in writing SPIN FX paragraphs but it is promising to see her make the link between poor employees, customer service and profitability (business sales). A second excerpt in Figure 6.10 shows that Jacqui has also explained how obtaining finance for a new business affects profits and loss.

Finance is extremely important in the establishment stage of the business. It is essential that the business has gained enough capital and finance to operate the business smoothly. Without adequate finance, the business decline and debts may increase. [sic] (*Jacqui, Excerpt 2 from end of year examination*)

	SP Syllabus Point	IN In other words	F Effect on the business
	Finance is extremely important in the establishment stage of the business.	It is essential that the business has gained enough capital and finance to operate the business smoothly.	Without adequate finance, the business decline and debts may increase.
X Example	-	-	-

Figure 6.10: SPIN FX paragraph from end of year examination: Jacqui Excerpt 2

Despite the absence of the case study in this paragraph, Jacqui’s writing includes an implication sequence and connects syllabus points with the profitability of business.

Carla constructed one implication sequence in her answer. Rather than explaining the impact on a business in terms of profit and loss, she reverts to the syllabus concepts of ‘success’, which implies but does not specify profitability. Carla restates a syllabus point about the importance of a strong customer base, and then makes an exemplification move where she applies this theory to a case study (Jason and Angela’s new business). Her answer is displayed in the SPIN FX table in Figure 6.11.

Establishing a good customer base is the first step to a successful business. Jason and Angela first need to select a target market and find a gap in the market, niche or competitive edge to ensure their business is successful. (*Carla Excerpt 1 from end of year examination*)

	SP Syllabus Point	IN In other words	F Effect on the business
	Establishing a good customer base is the first step to a successful business		
X Example	Jason and Angela first need to select a target market and find a gap in the market, niche or competitive edge -	-	to ensure their business is successful

Figure 6.11: SPIN FX paragraph from end of year examination – Carla Excerpt 1

In this paragraph, Carla has partially constructed a parallel implication sequence, indicating potential for creating the full sequence with more support and practice.

Aaron’s answer mostly consists of statements about syllabus points but with occasional elaboration. He also created a partial SPIN FX paragraph. In one instance, Aaron makes the link between a business activity and profits, connecting the theoretical point about the value of existing employees, with the case study/scenario about Jason and Angela’s business, shown in Figure 6.12:

Existing employees can highly influence success of franchises. Since recruitment and selection of employees has already been done this will save time and money, generating profits. (*Aaron Excerpt 1 from end of year examination*)

	SP Syllabus Point	IN In other words	F Effect on the business
	Existing employees can highly influence success of franchises.	Since recruitment and selection of employees has already been done	this will save time and money, generating profits.
X Example	-	-	-

Figure 6.12: SPIN FX paragraph from end of year examination – Aaron Excerpt 1

In the final interview, Ava commented that she thought students had improved their skills in structuring their extended responses and referring to the case study more consistently. Even though Ava had engaged enthusiastically in the research, she also had not revisited any of the content covered in the intervention due to a lack of time. Even so, Ava’s students showed some ability in constructing implication sequences and in organising their answers in ways that are valued by HSC markers.

In summary, this research does not claim to have achieved improvement in student examination results by means of the intervention. Students achieved roughly the same marks in the first assessment task, before the new lessons, and in their final assessment task of Year 11. With the limited time available for the teaching of new content, it would have been surprising to see more profound improvements. While all seven Business Studies students created SPIN FX paragraphs correctly during the intervention lessons, their final examination answers contained only fragments of parallel implication sequences. Research supports the idea that effective teaching of literacy practices clearly requires an extended time frame with more extensive opportunity for reinforcement and practice (Heckman, 2005). Importantly, teacher engagement is also critical so that ideas can be reinforced with students, a concept to be explored more fully in the following chapter.

The focus now moves from Business Studies to Music. Firstly, the development of the assessment rubric will be explained, followed by the content of the intervention lessons, and concluding with an exploration of student writing about music, both during the intervention and in the final assessment task of Year 11.

6.4.5 Developing lesson plans and a pedagogic rubric in Music

Based on collaboration with Music teachers and interviews, three teaching points were established for the two new lessons:

1. structuring an answer
2. making a point
3. using diagrams

These three points were included as criteria in the pedagogic rubric for Music. The rubric has five criteria: creates structure, builds a taxonomy of concepts of music, makes a point, uses musical terminology and includes musical images.

Structure

The first criterion in the rubric relates to structure. Successful music answers tend to organise the answer using one of two types of headings: concepts of music or musical sections which then become hyperThemes for the textual organisation of the answer. These two options are explicitly listed in the indicators of the rubric.

Builds a taxonomy of concepts of music

Successful answers identify several features of a musical excerpt that illustrate each concept of music, which in this research have been represented in system networks and supporting taxonomies. In teaching the concepts of music, students were taught the term ‘taxonomies’ as a simple way of describing both systems and taxonomies. A simplified version of the system networks of concepts of music was given to students during the research, as will be shown in the description of lesson plans. The rubric also lists each of the six concepts of music, along with a reminder for students to address the concepts specified in the exam question.

Making a point

In successful HSC Music answers, a point is made in a clause complex. Referring to a specific section or event in the music is critical for a successful point so this is the first element, ‘time’. The ‘Finding’ is the next move, incorporating the correct naming of performing media and features of concepts of music that students notice in an excerpt. The final element is ‘principle’, relating to the principles of composition (unity,

contrast, interest, etc.). These three moves synthesise the features of successful answers in the research map.

Musical terminology

Musical terminology is included as a separate criterion in the rubric, which reinforces the need for students to learn the features of system networks and how they relate to each other.

Musical diagrams

Multimodal aspects of successful examination answers have been identified in Chapter 5, with seven common types of images identified and categorised. While this research refers to ‘images’, in the pedagogic rubric, the term ‘musical diagrams’ was used because that is the wording used by Natalie. While particular images are not specified in the rubric, the importance of labelling is included as a criterion for success, with students reminded to include a title, labels for parts (e.g. melody line) and specific reference to musical time (e.g. bar 2, Section A). The linguistic features of successful Music answers and their translation in the pedagogic rubric are shown in Figure 6.13.

Research map of disciplinary linguistic features

Music aural answer (from Table 4.21)

Genre of the question		Questions about one, two or all concepts of music, performing media or principles of composition
Genre and staging		Description of concepts of music 2 variants of staging: 1. Description of concepts of music 2. Sections
Textual meaning	Theme, hyperTheme, macroTheme	Headings: 1. concepts of music or 2. structure
Experiential meaning	Lexical chains	1. performing media 2. concepts of music 3. principles of composition 4. time
	Types of entities	extensive taxonomies specialised language (performing media) technicality – use of classifiers grammatical metaphor (abstraction)
	Nuclear relations	performing media as agent central is process or member of class/part of whole medium is concept of music or performing media peripheral – time
	Activity sequences	event focused activity sequences and entity focused activity sequence
Logico-semantic meaning	Taxis Conjunction Expansion	clause simplex and parataxis succession (time sequence) addition elaboration
Interpersonal meaning	Mood, modality, appraisal	Evaluatively neutral; principles of composition mild positive appreciation; no first person
Summary – functional stages in making a point		Time Finding (performing media = create = concept of music) Principle of composition

Pedagogic version: Music Aural marking rubric	
Structure	Structures the text using headings (names of concepts, or structure/sections)
Builds a taxonomy of all the music aural concepts or the ones asked for in the question	Pitch
	Duration
	Texture
	Tone Colour
	Dynamics & Expressive Techniques
	Structure
Making a point	Time Makes specific references to musical time
	Finding Describes musical events related to taxonomies of concepts and performing media
	Principle Links concepts to the principles of composition or the ones asked for in the question (variety, contrast, interest, unity, etc.)
Musical terminology	Names musical instruments accurately and specifically
	Uses technical musical words from the taxonomies of the concepts
Musical diagrams	Diagrams/notation (if included) have a title and labels for parts and musical time.

Figure 6.13: Music - converting the research map into a pedagogic rubric

Development of lesson plans for the intervention

The same three teaching points were planned for both Natalie's and Dianne's classrooms: structuring an answer, making a point and using diagrams. Movie themes were chosen as musical excerpts for aural activities with Natalie's class while Dianne's class was studying Jazz, so excerpts in Jazz styles were used for her lessons. Lesson plans for Natalie's class are shown in Appendix C, and outlined briefly here.

The first lesson involved teaching students how to structure an examination answer and how to make a point, using a teaching sequence based on the Teaching and Learning Cycle (Rothery, 1994). In the modelling stage, the teacher demonstrated two ways to answer a question, using headings of musical sections (e.g. Section A, Section B, Section C) or headings of concepts (e.g. pitch, duration, etc.). On the board, students and the teacher jointly constructed a plan for answering past HSC questions before listening to the excerpt. Next, students worked in groups of two or three to create plans for examination answers, writing their headings on mini whiteboards then showing them to the rest of the class for feedback. Next, students listened to an excerpt of music and evaluated how their structure would have helped to answer the question in relation to the excerpt.

The next stage of the lesson taught students about making a point. The teacher explained the stages of a clause complex used to make a point – Time, Finding and Principle – with an example. Then the teacher and students listened to an excerpt and jointly constructed a point on the board. Next, in groups of three, students wrote clause complexes to make a point, with each student constructing a different functional move. One student in each group created the Time move, another student made a Finding and the third student related the finding to a Principle of Composition. The teacher and

researcher moved around the class supporting students if they needed help. Then, points were shared with the rest of the class and the teacher provided feedback. At the end of the lesson, students listened to a different excerpt and wrote a point independently.

Lesson Two of the intervention focused on the three most common images used in successful examination answers: a pitch contour, a texture score and a structure and performing media table. Firstly, the teacher drew an example of each on the board and explained how they referred to concepts of music, also noting the importance of labelling each image. Then the teacher jointly constructed one of each of the images on the board with students, in reference to a musical excerpt. Next, students worked in groups on mini whiteboards, first selecting a diagram, before listening to an excerpt of music and drawing a diagram. Completed diagrams were discussed with the class and students offered suggestions how they could be improved. Students, in groups, also practised drawing one other type of diagram in groups, before drawing one on their own as an independent construction. Next, students filled in a worksheet which instructed how to make a point about melody using language, and how to draw a pitch contour in reference to a short musical excerpt. After this lesson, students completed a practice examination answer where they applied the three skills covered in the lesson: structuring an answer, making a point and using at least one diagram. The pedagogic rubric was provided for students for self-marking of their answers. As Dianne did not teach from these lessons plans, student work from Natalie's class will be analysed in the next section.

6.4.6 Analysis of student writing in Music

Student work from four participants – David, Peter, James and Michael – will be analysed in this section, including class work and the final assessment task for Year 11. Even though seven students from Natalie's class provided consent forms, some work

was not handed in or students were absent from the intervention lessons. Answers related to the concept of pitch were common to both the intervention and the final examination, so texts selected for detailed analysis concern pitch.

During the intervention, all four students demonstrated that they could construct a point about pitch containing the three functional stages: Time, Finding and Principle. In independent construction, each of the students construct a point, as shown in Table 6.1.

Table 6.1: Making a point in music – David, Peter, James and Michael

Stages	David	Peter	James	Michael
Time	In the intro	In the beginning of the excerpt	In the introduction and Section A	In the intro
Finding	acoustic drums and cello crescendo to Section A where more layers of sound are introduced	there is a crescendo of the orchestral drums and the accented high pitch from the xylophone	the same performing media such as the acoustic guitar is used	the strings are played with a mezzopiano dynamic which rises to forte
Principle	which creates tension and maintains the audience's interest.	which creates tension and mysterious timbre.	which creates unity.	which builds contrast.

All four 'time' moves are appropriate and specific. The findings are also correct, with most students commenting on changing dynamics (loud and soft). In his finding, James stated that the same performing media are maintained throughout the section. This is correct but does not adhere to the Finding move exactly, as he did not relate performing media to a concept of music. Nevertheless, his point does link to a principle of composition: 'unity'. The principles of composition listed by students are related to their points. Peter, however, also refers to 'mysterious timbre' which shows initiative but does not fulfil the requirement of writing about a principle of composition. Timbre

is synonym for tone colour, which is a concept of music, rather than a principle of composition. Despite these limitations, overall, the points made by the students during the intervention reflect the characteristics of successful HSC answers.

During the second intervention lesson, one writing activity was analysed in detail. Students were asked to make a point about pitch and to draw a pitch contour that referred to the musical excerpt. In their points, students were not required to refer to a 'time', because the excerpt provided to the students was only short (around 10 seconds of music). In order to complete this activity, students were provided with a simplified version of the music system networks, displayed as a taxonomy with oblique lines in a fan-like shape connecting features of each system. Students used this diagram for reference while listening to the excerpt of music. The focus for listening was melody, one of the aspects of pitch. The melody system networks have five features: contour, direction, register, range and lines, and students were told that they could refer to any or all of these aspects in their statements about the pitch of an excerpt of music. The simplified taxonomy given to students is shown in Figure 6.14.

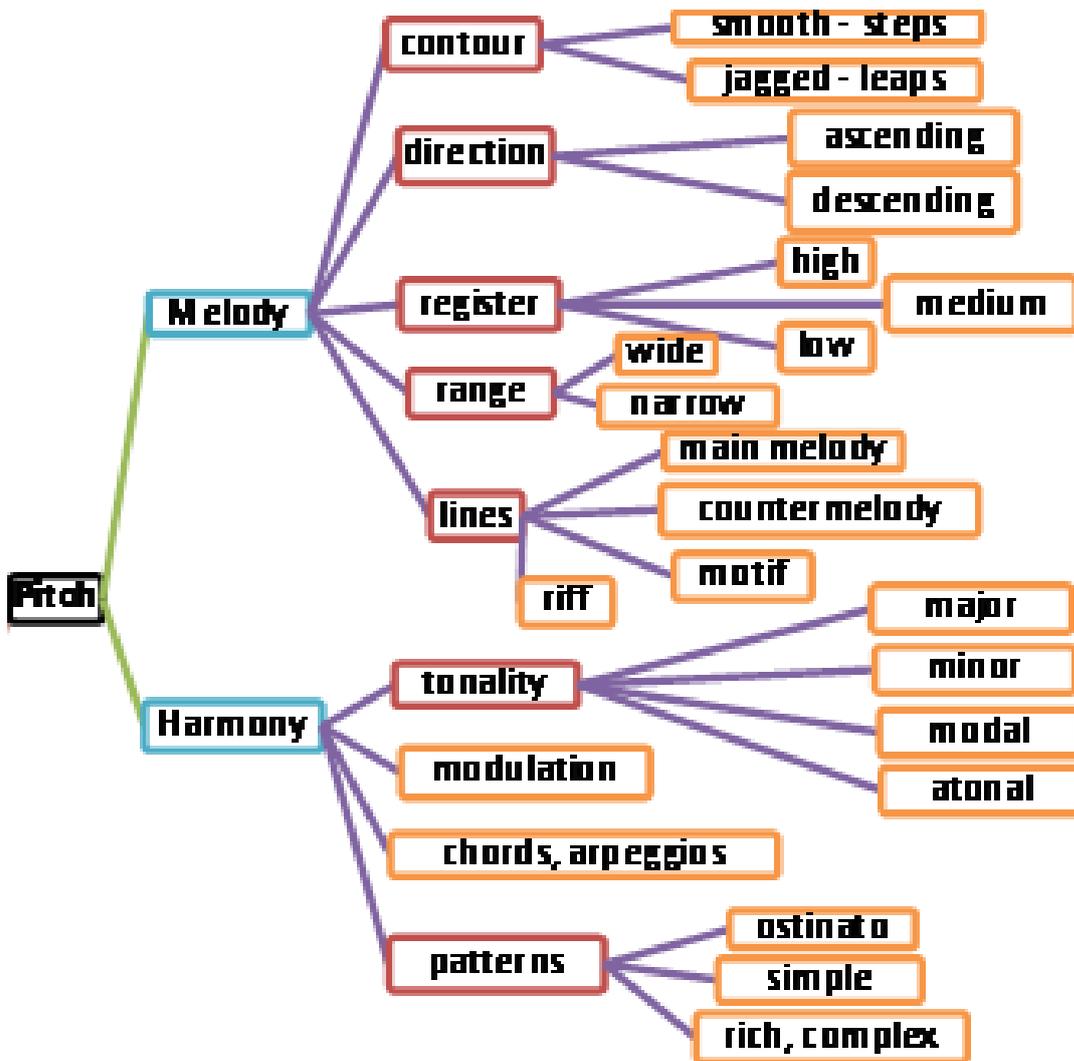
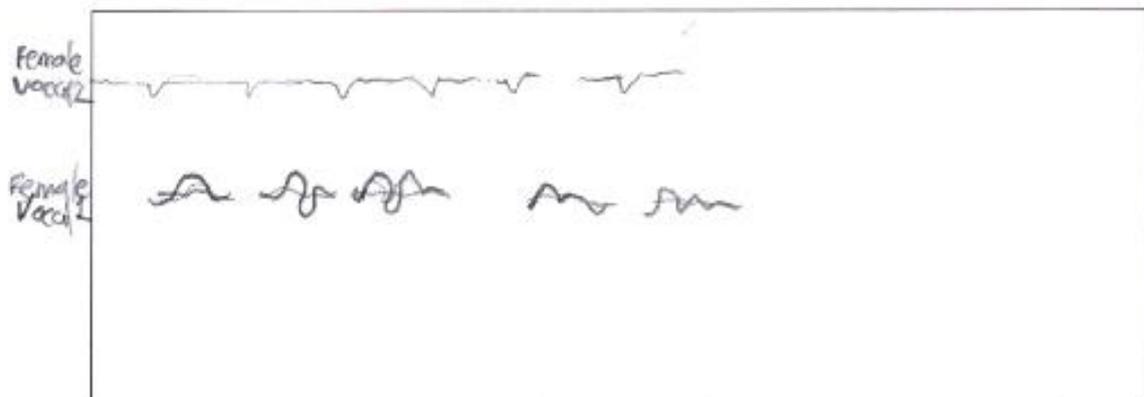


Figure 6.14: Simplified taxonomy of pitch used in the Music intervention

Class work was collected from only three of the four students participating in the research as Michael’s worksheet was lost. The first student, Peter, creates two contours and writes two points about melody, as shown in Figure 6.15. Verbiage has been retyped for clarity.

Draw two melodic contours of the vocal lines in this excerpt. Label each contour.



Now use the words on the Concepts of Music map to write a few Findings about the melodic contours you have drawn.

The melodic contour of the female vocal (2) are jagged whilst the 1st female vocals are harmonising with it, with a smooth contour counter melody.

(verbiage retyped for clarity) The melodic contour of the female vocal (1) are jagged whilst the 2nd female vocals are harmonising with it, with a smooth contour counter melody.

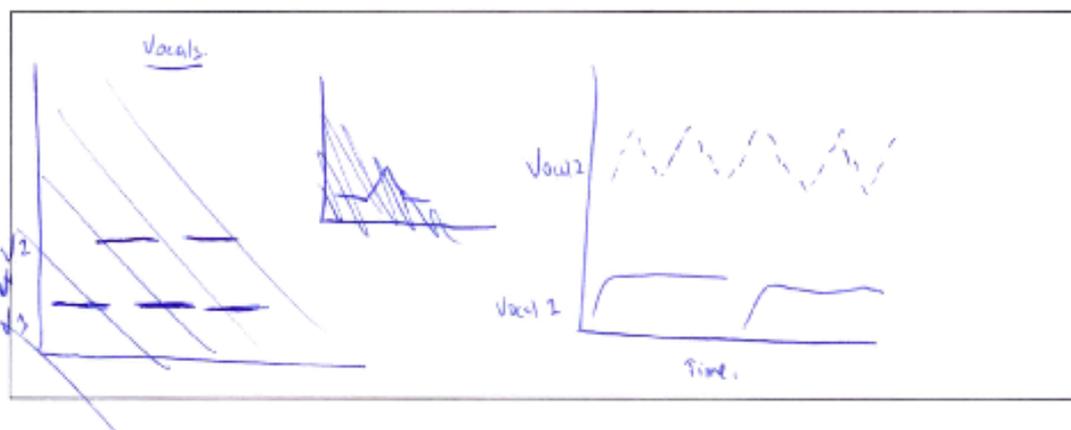
Figure 6.15: Peter's worksheet on pitch

Peter's answer successfully constructs a point about melody, referring to two aspects of pitch: smooth/jagged contour and the role of melodic line ('counter melody'). His reference to one line 'harmonising' with the other is a little vague. Peter's pitch contours also refer correctly to several features of pitch in the musical excerpt and are labelled clearly, but the positioning of the contours is not entirely successful. Peter has drawn the contour for 'female vocal 2' higher on the page than 'female vocal 1'. In the excerpt, however, the more sustained vocal part is lower in pitch than the undulating

‘female vocal 1’. In order to capitalise on the affordances of image, Peter should have reversed the spatial position of the melodic lines. The step-like movement of female vocal 2 has been well captured in the drawing, with the sustained note shown by the long straight lines. The contrasting contour of female vocal 1 is also shown by a more undulating line. Peter’s point in his writing and in the pitch contours represent a few aspects of meaning about melody, but there are still some inaccuracies which suggest the need for more practice in constructing answers using both verbiage and image.

James’s answer, on the other hand, is highly successful in referring to all five features of melody in the summary taxonomy, using both image and verbiage. His answer is shown in Figure 6.16.

Draw two melodic contours of the vocal lines in this excerpt. Label each contour.



Now use the words on the Concepts of Music map to write a few Findings about the melodic contours you have drawn.

Female vocal 1 ^{plays} a sustained ostinato in a ^{med. un} register, alto.
 Female vocal 2 sings a jagged-contour melody in a high register as
 the main melody over female vocal 1.

(verbiage retyped for clarity) Female vocal 1 plays a sustained ostinato in a medium register, alto.

Female vocal 2 sings a jagged contour melody in a high register as the main melody over female vocal 1.

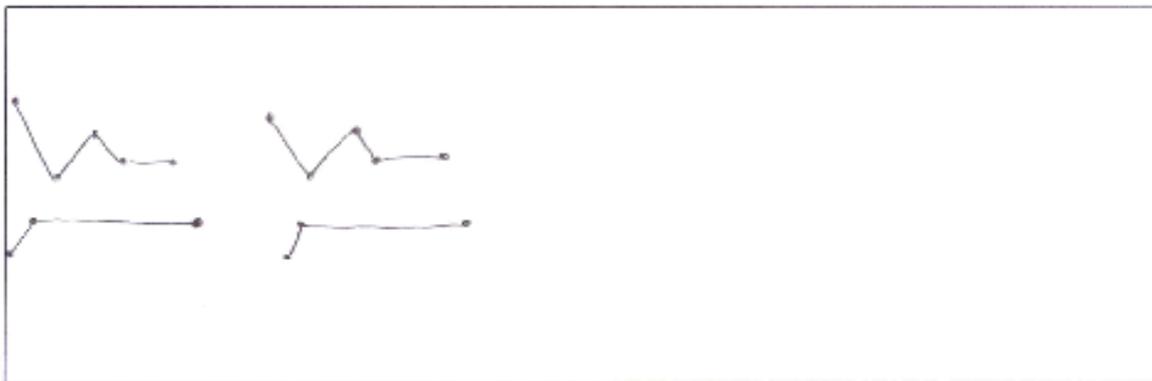
Figure 6.16: James's worksheet on pitch

In verbiage and image, James's answer refers to several features of the concept of pitch. In verbiage, James has referred to three aspects of the melody taxonomy: 'medium/high register', 'jagged contour' and lines 'main melody'. His drawing of the pitch contour is highly effective in referring to four sets of features in the system of melody: register, range, direction and contour, by means of the curved line shapes. The verbiage describes 'ostinato' which is a repeated pattern, and this feature is also represented in the repeated contours. Even though not required in the instruction for this activity,

James's pitch contours also show principles of composition with patterns of similarity and difference, materialised in two identical lower curved lines and undulation of the top line and contrast between broken and unbroken lines. Even though the verbiage only specifies the features of contour and range, the pitch contours refer to additional features including direction and range. James's answer is a highly successful construal of melody in the excerpt of music.

David's pitch worksheet also features two pitch contours as well as verbiage which refer to all four features of the taxonomy for melody. His answer is shown in Figure 6.17:

Draw two melodic contours of the vocal lines in this excerpt. Label each contour.



Now use the words on the Concepts of Music map to write a few Findings about the melodic contours you have drawn.

-The contour of the female alto vocals are jagged compared to the constant sustained vocal accompaniment.

-The high register female alto vocals have a descending ostinato which contrasts with the low register countermelody of the female alto vocals.

(verbiage retyped for clarity) The contour of the female alto vocals are jagged compared to the constant sustained vocal accompaniment.

The high register female alto vocals have a descending ostinato which contrasts with the low register countermelody of the female alto vocals.

Figure 6.17: David's pitch worksheet

David chooses to refer to four features of the systems of melody presented in the taxonomy. In the verbiage, his answer refers to contour: ‘jagged’, register: ‘high register’, ‘low register’, ‘alto’, direction: ‘descending’ and lines: ‘accompaniment’, ‘countermelody’. This is an effective way of building meaning about four different aspects of pitch, and such an answer would potentially gain high marks from HSC examiners. In addition, his pitch contours further specify this musical meaning, and also refer to features of relative register, contour and direction, as well as range, a feature not mentioned in verbiage. Like the other pitch contours, David’s drawing clearly contrasts the shapes of the two lines, with the lower pitch contour more sustained compared with the jagged contour and wider range of the upper pitch contour. On the other hand, David has not fulfilled an important direction: to label the contours. In summary, this analysis demonstrates how three students were able to compose answers that demonstrated some of the features of answers that achieve high marks in the HSC exam.

Four weeks after the intervention, these students sat for final Year 11 Music examinations, and their answers are analysed in the next section. The purpose of this analysis is to find out whether any of the features of successful answers listed in the pedagogic rubric and covered in the intervention are evident.

Analysis of student writing in the end of year examinations

In the end of year examinations, each student answered four questions about excerpts of music. Question 3, related to pitch and tone colour, has been selected for detailed analysis as it relates to the class work on pitch described above. Since their writing is hard to read, answers from David, Peter, James and Michael are typed and teachers’ comments are also included, in italics. Significantly, none of the students attempted to use a pitch contour to describe aspects of the music. The first answer is from David.

(David's end of year examination answer to Question 3: pitch and tone colour)

The strings are playing plucked notes at a rather low range. This is contrasted in the second movement as there is a sustained drone by percussive instruments. The melody of the piece is supported by a drone (a note that is an octave above) to give it a warmer feel. The woodwind pierces the piece in the lead up to the climax of the piece. Within the build up, the pitch is within the higher range which is juxtaposed by a lower and less dense section. This occurs twice then the piece ascends in pitch and the instruments harmonise with each other. Overall the piece has a majestic tone colour due to the orchestral instruments. Within the build up, the piece has a somewhat mysterious and eastern feel. This contrast in mood allows for interest within the piece. The string instruments are playing plucked notes which results in a lower pitch than their bowing. The woodwind are played legato (smoothly) in order to provide contrast. The percussion instruments, although are not tuned instruments, are utilised different in order to give the piece a unique and ominous feeling. The woodwind plays somewhat of an expressive technique (glissando) allowing it to progress to higher ranges. The piece ranges from high to low range due to the different ranges of each instrument. By exploring and utilising different ranges of the instruments, the composer is able to bring out different tone colour within the piece ranging from folk like to relax to anticipation to excitement.

5/8 Great. One of the main issues with your responses is the 'where' aspect. Maybe if you format your response differently, you can address this.

In terms of structure, David has not organised his answer using headings. He integrates the two focus concepts (pitch and duration) in the question in a haphazard way, which results in unfocused comments. He makes a total of 19 accurate findings but not all of these are about pitch or tone colour. He tends to describe expressive techniques (e.g. 'plucked', 'legato', 'glissando', 'bowing') without relating them to the focus areas of the question: pitch and tone colour. The time move in making a point has not been used consistently in David's text and it is difficult to discern when David's findings occur. There are only six references to time in his answer (e.g. 'in the second movement', 'in the lead up to the climax', 'within the build up', 'twice') but this is not sufficient temporal specification for a Band 6 answer. In this answer, David moves beyond principles of composition and draws on a wider range of emotions and mood (e.g. 'a somewhat mysterious and eastern feel' and 'a unique and ominous feeling'). These kinds of interpretive statements are not valued in the HSC context, so David needs more practice in evaluating music according to a constrained set of interpretive possibilities:

unity, contrast, interest, tension and climax, as described in Chapter 4. David names musical instruments correctly and he does use musical terminology, but not related to the specific taxonomies required in the question. The teacher's comment encourages David to relate his findings to a particular time, shown by the probe question 'where', and adds a suggestion that David should 'format' his answer differently. Unfortunately, the teacher did not take up the metalanguage developed in the intervention (i.e. time for 'where' and structure for 'format'); however, the feedback seems appropriate and helpful.

Peter's answer also does not use headings to structure the answer, as shown below.

(Peter's end of year examination answer to Question 3: pitch and tone colour)

The piece begins with mf strings played pizzicato and repeats the same pattern giving it that warm feel to it. Has accents in Section A. An ascending glissando sequence is played so it portrays a new section with wind instruments giving an indication to Section B, giving it that upbeat feel and warm tone colour to it. As they harmonise whilst the strings are bowed as well as plucked. Later the pitch goes lower using repeated notes as it climaxes and ascends to forte, having all the instruments being played at once, harmonising and creating tension as it repeats, using percussion to help support it. At the climax the wind instrument is playing that ascending, trill like sequence as a counter melody to harmonise with the instruments. There is somewhat a call and response sequence as the repeated horn will play the same note and the response is the ascending woodwind sequence creating excitement within the piece.

This information is excellent. Just need specific examples to back it up. 5/8

Similarly to David's answer, Peter does not structure his answer using headings or clear sections. As a consequence, his findings jump from pitch to tone colour and to other concepts. Peter makes 20 findings in total, which is impressive for an answer of only 158 words. He successfully refers to aspects of melody ('ascending sequence', 'ascends', 'goes lower') and pitch patterns ('same pattern', 'repeated notes', 'call and response sequence'). He seems to confuse the concepts of pitch and dynamics when he states that the music 'ascends to forte'. The music can 'build' or 'crescendo' to loud

dynamics ('forte') but the term 'ascending' is only used to describe pitch. This example shows that students need more specific instruction about how concepts relate and what exactly is contained within each concept.

The examination question asks for analysis of tone colour, but Peter only makes two findings related to tone colour: 'warm feel' and 'warm tone colour'. He does mention performing media and expressive techniques ('pizzicato'/'plucked', 'glissando'); however, he needs to relate these to tone colour rather than simply mentioning them. He makes a reference to the combinations of performing media system 'having all the instruments being played at once', without relating this to tone colour (e.g. which creates a richer, fuller sound). Peter does refer to two principles of composition 'climaxes' and 'creating tension' which is appropriate and could relate to the teaching input he received during the intervention lessons. Despite some awkward expression and sentence fragments, Peter's use of musical terminology is appropriate and consistent; however, his answer has insufficient findings related to tone colour. The teacher's feedback comments are encouraging but do not proffer explicit suggestions for improvement.

James's answer is longer than the other students' and he is the only one to use headings to organise his response, as shown below.

(James's end of year examination answer to Question 3: pitch and tone colour)

Intro:

The composer uses strings which play in a higher register by bowing the strings. This creates the tone colour and mood for the piece. It makes the piece filled with excitement and tension. They play staccato.

A:

The strings are still playing in a higher pitch. They are playing legato instead of the staccato in the intro. This helps transition into the next section of the song while maintaining the mood of the piece, but also adding elegance to the piece through the legato of the strings.

plucked not bowed

B:

Along with the strings the cello's play thus giving the piece a lower pitch and changing the tone colour and adding tension to the piece. The lower pitch contrasts with the previous high pitch of the first sections, this creates contrast and changes the mood and help builds into the climax.

Sec C + D + Bridge:

This is the climax of the song which utilises a higher register in order to create excitement and engage the audience. As the end of the sections approach a bridge played in a middle register in order to maintain the tone colour of the piece.

E:

The ending section consists of brass and strings starting in a higher register and gradually descending or playing diminuendo, as the piece approaches the coda, this creates the tone colour and alerts the audience the piece is near the coda.

5/8 Just a few extra details for your findings.

James has written a long answer of 235 words, when compared to the other students, but he only makes 16 correct findings. He is the only student to organise his answer according to headings of sections of the music, which means that every finding he makes is related to a specific timing point, one of the features of successful answers. Unfortunately for James, his findings only refer to limited aspects of the concepts of music. He only describes two features of the system of pitch melody by referring to register repetitively ('higher register', 'higher pitch', 'lower pitch', 'higher register', 'middle register') and mentioning direction once ('descending'). If James had referred to more aspects of pitch as he did in his class work (Figure 6.16), for example, pitch contour or pitch patterns, he may have been able to achieve a higher mark. Reference to tone colour is also limited, as he vaguely comments that the bowing of strings 'creates

the tone colour' and that cellos are responsible for 'changing the tone colour', but he does not specify what sound quality is created or changed (e.g. warm, rich, mellow, dark, etc.). This may suggest that James is unsure of how to describe tone colour, again providing evidence supporting the need for explicit teaching of concepts and the aspects of music related to each concept. James makes four appropriate references to principles of composition ('tension' twice, 'climax' and 'contrast') and he names musical instruments appropriately. Natalie's comment on James's work is generalised and it is not clear what she means by 'a few extra details', so again she has missed the opportunity to use the metalanguage developed in the intervention (e.g. make more findings about different aspects of pitch).

Analysis of the final student's work shows what happens when students do not make a concise point. In the intervention, students were taught how to make a point in a sequence of three moves, so that students focus on identifying one musical feature in each clause complex. Michael's answer is an example of what happens when student writing rambles, with longer clauses that do not add musical value. Michael's answer achieved the lowest mark from the teacher, only four out of a possible eight marks.

(Michael's end of year examination answer to Question 3 pitch and tone colour)

The song begins with what sounds like a lightly played violin playing staccato notes in an ostinato. This gives the piece a sense of light happy feel as it plays in a high register. Then a double bass enters playing one note every bar, as if to give suspense. The song remains in a high pitch. The composer uses tone colour in particular to tell the story the music tries to tell. As the piece moves into a crescendo and thick texture the instruments have already turned into a lower pitch to anticipate for it. It is at bar 20 that the instruments go low and the song begins to turn dark as the low bass and low use of instruments coupled with the fast paced staccato are elements included by the composer to instil fear and build up this darkness. By the time the song reaches the crescendo, the listener is at the edge of their seat and the loudness and rougher way of playing instruments scares the listener as it startles them.

You have started to explore 'where' more in this one, however you still need to be more specific and add greater detail to your responses.4/8

Like David and Peter, Michael does not use headings to structure his answer. There are only four references to specific musical time: 'begins', 'then', 'at bar 20', 'by the time the song reaches the crescendo', insufficient for making a point. Michael only makes 14 accurate findings in this answer, with a limited number related to pitch or tone colour. Michael has attempted to describe the musical events in the order of the excerpt, but his clauses tend to be repetitive. In terms of pitch melody, Michael makes several references to register: 'high register', 'high pitch', 'lower pitch', using some idiosyncratic expressions: 'go low', 'low use of instruments'. He also makes two brief references to pitch patterns 'ostinato' and 'one note every bar', but he does not mention any other features of melody or harmony, despite this being the focus of the question. Michael makes three accurate references to tone colour: 'light/happy', 'darkness' and 'roughness' but he does not link dynamics and expressive techniques (e.g. 'staccato notes' or 'loudness') to these qualities. This example again shows what happens if students do not understand the relations between aspects of concepts of music. Instead, Michael makes enthusiastic yet clumsy attempts to refer to the composer's intention, and the emotional reaction of the audience/listener but these are not ways of interpreting music that are valued by HSC markers. He refers to the composer's intention 'to instil fear' and the audience's reaction 'at the edge of their seat' as the music 'startles them'. Michael mentions violin and double bass but the two references to 'the instruments' and one to 'low use of instruments' are too general. In other words, his answer needs to specify the performing media used in the excerpt.

In summary, student results in the end of year examinations were roughly the same as before the intervention. When asked her opinion of the students' end of year examinations, Natalie's explanation for student results was unrelated to knowledge and

learning. She explained that there were too many examinations which unfairly tired her students so they could not achieve their best.

I actually made a comment to the Year 11 co-ordinator that I think (students) were exhausted.... So that was quite unfair I felt. (*Natalie Interview 2*)

These comments are explored further in Chapter 7, identifying Natalie's 'knower code' attitudes to her students. Natalie had noticed some improvement in the organisation of the text but not in other areas.

With their aural, I felt they really did well in the stuff we focused on. So I think they've got structure. They haven't got terminology.

While structure may have improved in the class of 24 students overall, the analysis of answers from four students does not support Natalie's statement. My analysis indicated that students were still unclear about what it was possible to 'mean' about the concepts of pitch and tone colour, and more explicit teaching of the concepts and their features may have assisted. Students such as David and Michael also needed clarification about the principles of composition, as they strayed into emotional interpretations that are not valued in successful answers.

During the intervention lessons, student writing and pitch contours were promising, indicating that students respond to explicit teaching about the features of HSC writing by making a point. There was no doubt that students were able to write more successfully when they had teacher support as well as a diagram of concepts of music in front of them. These gains, however, were not sustained in the examination context, although some aspects of making a point were starting to develop. For example, James and David started to refer to the specific timing of musical events and Peter was able to make 20 findings in a relative efficient way. This suggests that more time was needed to

reinforce concepts as, after only two lessons, students were not able to assimilate and practise new literacy skills and then reproduce them in an examination context.

6.5 Conclusion

This chapter covered several aspects of Stage 2 of the research in order to address RQ 2, which is concerned with how teachers address the literacy demands of their subject.

This chapter has revealed many of the challenges and obstacles faced when researchers collaborate with teachers. Two issues caused the greatest challenges to this project: insufficient time for teacher collaboration or for teaching, and teacher resistance to the new lessons.

Teaching time for the new lessons was limited to only two lessons due to scheduling restrictions and the busy schedule of secondary schooling. While this was enough time to cover three or four features of successful writing in each subject, it was not sufficient for reinforcement and practice. Time pressure to finish the required topics before the final examinations meant that Ava and Natalie did not have time to provide more lessons to revisit and practice these skills. More time is a condition for effective literacy pedagogy, providing more scope for practice of newly acquired literacy practices.

Despite time constraints, when students practised making a point during the intervention lesson, with support from the researcher, all were able to construct correct points. This shows that disciplinary literacy strategies can be taught in a relatively short time period, and used immediately. Despite the temporary success of these strategies, however, they were only reproduced in fragmentary ways in the final examinations for Year 11. Any literacy learning in the intervention lessons was temporary and not sustained. These

findings point to the need for students to have more sustained exposure to new knowledge and skills related to writing practice. The glimpses of effective student writing during the intervention suggest that explicit literacy pedagogy in disciplines is possible and has the potential to give all students the skills to create a Band 6 answer in the HSC.

Connected to this finding is that teachers did not pick up any of the metalanguage used in the intervention and they did not reinforce the teaching points presented during the intervention. Consequently, it was not surprising that students did not remember to structure their answer or to make a point in the end of year examination. In order for students to experience regular and sustained teaching of literacy practices, it is logical that their teachers need to understand these literacy practices and to be able to teach them, using a metalanguage that gives explicit direction to students on the features of writing and subject content. This was not achieved in the short time frame of this research, partly due to limited teacher engagement in the research. For this reason, the next chapter engages with the issue of teacher engagement.

Chapter 7 will address RQ 3, by exploring possible reasons for some teachers engaging in the intervention while other teachers did not teach the lessons at all, or even taught something else. In other words, Chapter 7 will explore how teachers' orientations to knowledge and to knowers can shape their attitudes, practices and behaviours. This exploration will enable a fuller understanding of both the complexities of literacy research in schools and the conditions for effective disciplinary literacy pedagogy.

CHAPTER 7: Knowledge and knowers in a literacy intervention

This chapter explains what happened when the researcher attempted to engage five teachers in a literacy intervention. The prospect of teaching new lessons triggered varying levels of engagement from teachers, ranging from full enthusiastic participation to disinterest and disregard for the lesson plans. The intervention also seemed to be a catalyst for a range of reactions that were not directly related to literacy. Instead, in interviews, teachers revealed dispositions, attitudes and beliefs about teaching, about their students, about themselves as teachers and about the intervention which did not relate to the initial research questions. In order to explore these areas in depth, a new research question was formulated and a new analytical framework was adopted.

The third research question seeks to explain the range of different teacher engagement in the research:

Why do some teachers embrace a literacy intervention while others disengage or resist explicit teaching of literacy?

This research question widened the scope of the research, so that not only were issues related to knowledge (the subject and its literacy practices) explored but also teacher attitudes to and beliefs about this knowledge, and whether this might account for teacher behaviour and actions during the intervention.

As explored in Chapters 1, 2 and 3, LCT (Specialisation) is an analytical framework that can be used to investigate orientations towards knowledge and/or towards the knowers of that knowledge. In summary, Specialisation is based on the fundamental

principle that all dispositions and practices ‘are about or oriented towards something by someone’ (Maton, 2014). Configurations of stronger (+) or weaker (-) relations to knowledge (epistemic relations, ER) and to knowers (social relations, SR) generate four Specialisation codes: knowledge code (ER+, SR-), knower code (ER-, SR-), elite code (ER+, SR+) and relativist code (ER-, SR-). The two codes relevant to this research are knowledge code and knower code. A knowledge code is characterised by stronger epistemic relations ‘between practices and their object or focus’, and weaker social relations ‘between practices and their subject, author or actor’ (Maton, 2014, p. 29). In contrast, a knower code is characterised by stronger social relations and weaker epistemic relations. The first task of this analysis is to identify the Specialisation code of the research intervention itself.

7.1 Rethinking the intervention as a knowledge code

The Specialisation analytical framework enabled a fresh perspective on the intervention as well as on the data generated by the research, bringing to consciousness the assumptions underlying the research and the lesson plans. The design of the research was based on linguistic theories of Systemic Functional Linguistics (SFL) and the complementary pedagogical model used by SF educational linguists in research and practice: the Teaching and Learning cycle, also known as Sydney School Genre Pedagogy (see Martin & Rose, 2012, for history and contributors). The Teaching and Learning Cycle aims to teach explicit features of language in reading or writing in three main stages: deconstruction (where the teacher models, demonstrates and explains features of a text), joint construction (where teacher and students construct a text collaboratively) and finally independent construction (where the student works alone) (Rothery, 1994). In Bernstein’s terms, this cycle involves ‘waves of classification and framing’ (J. R. Martin, 1999, p. 146), where classification involves the boundaries of

knowledge and framing is teacher control over the pace at which the knowledge is taught. This pedagogy is intentionally ‘visible and interventionist ... with a strong focus on the transmission of identified discourse competences and on the empowerment of otherwise disenfranchised groups in relation to this transmission’ (J. R. Martin, 1999, p. 124). In this pedagogical model, the knowledge to be taught is the most important aspect, rather than the nature of the students, their personal qualities, social background or attitudes. This pedagogy is, therefore, a knowledge code, because knowledge is foregrounded and the dispositions of knowers are downplayed.

Teachers who participated in the research were informed that all students would be expected to learn new disciplinary literacy skills. The objective of the research was framed in terms of a knowledge code, which highlights the knowledge that all students can learn to improve performance in the HSC examination. The design of the research intervention as a knowledge code reflects my disposition to linguistic research. Coming from within the SFL tradition, I had assumed that this was the logical way to plan the intervention. By analysing the intervention through the lens of Specialisation, however, the nature of the intervention as a knowledge code has been highlighted. The realisation that the intervention reveals my knowledge code orientation (and the knowledge code orientation of SFL) provides a reference point for analysis of teacher attitudes and practices. That is, it is now possible to analyse and interpret teacher views and behaviour in relation to the knowledge code of the intervention, determining if there are code matches or code clashes between the intervention’s knowledge code and the teacher’s own orientations.

7.2 Case studies

Five case studies will be described to summarise the analysis of Specialisation codes and then to determine the dominant coding orientation of each teacher and whether this clashes or matches with the knowledge code orientation of the intervention. Each case study begins with a vignette from the researcher's journal that provides an insight into interactions with the teacher during the research and into the teacher's level of engagement in the research. A brief analysis follows of the classroom environment of each case study to provide a context for the analysis. In each case study, three orientations are analysed, using the external language of description presented in Section 3.5.7. The first is an orientation to epistemic relations, exploring teacher orientations to knowledge and skills in terms of mastery of syllabus content for Business Studies or Music and in terms of the characteristics of successful HSC examination answers. The second orientation is an analysis of social relations in terms of teacher orientations to students. For this analysis, interview data will be examined for any comments from teachers related to the dispositions, feelings or personal qualities of students as learners or knowers. The final orientation to social relations relates to the teachers' views of themselves as knowers. Each case study will conclude with a determination of whether a code clash or code match exists in relation to the knowledge code of the intervention.

7.2.1 Ava: code match

Vignette

I arrive at the school and Ava and I sit down for a coffee. We talk through each part of the lesson plan we have previously agreed. We will be team teaching so Ava and I confirm which parts of the lesson each of us will teach. When the bell rings, we go into the classroom and teach a double period lesson (two hours) as per the lesson plans. We do this with another Business Studies class for another double period after lunch. While I am teaching my parts of the lessons, Ava sits up the front on a desk nearby, making supporting comments and ensuring students are engaged. The lessons proceed smoothly and the students participate and complete all activities in their handouts.

The first case study to be analysed illustrates what happens when research proceeds smoothly. In Ava's case, everything went according to plan at all stages of the research. Observations of Ava's usual lessons revealed a calm and pleasant classroom environment. Students were co operative and relatively engaged in classroom activities which ranged from low challenge (filling in one word answers in a cloze passage) to medium challenge (writing sentence answers to questions about a newspaper article). While most of the lessons could be characterised as 'orderly restricted' (Johnston & Hayes, 2008, p. 116), with high teacher control and low student engagement, some aspects of the lessons involved more student choice and agency. In one of the lessons, students could control the pacing of their own learning as they researched on the internet and sent emails to small business owners. This description of the learning environment is relevant when compared to other less productive learning environments in other case studies.

After observations of Ava's lessons and an analysis of student work, Ava and I agreed on focus areas for the new lessons, I developed some lesson plan ideas and resources, and Ava provided feedback on how to adapt them for the topic she was teaching. Although the initial plan was for the classroom teacher to teach the new lessons (not the researcher), Ava asked if we could teach together. I agreed, especially since Ava was

prepared to be heavily involved in the lessons. We taught double period lessons (two hours each) to two Year 11 Business Studies classes and the new lessons proceeded exactly according to the plans.

Analysis of epistemic relations

Interviews with Ava were analysed in terms of the degree of emphasis on knowledge, skill and procedures. Ava's interview data reveal mostly stronger epistemic relations.

When asked what students need to do well to achieve high marks in the HSC extended response, Ava answers in terms of knowledge about language and of the syllabus:

They need to use paragraphs... they don't plan before they start... but their thoughts aren't organised so they're a bit all over the place. .. They still write stories from time to time and go back to 'I' and stray from the question... The language they use can be too casual... they don't want to commit to saying something detailed or factual so they say something vague in a casual manner... The ones who want to do well, they need to be able to cite examples of businesses and again not write it like a story. But actually support statements with how it actually works in reality... And it needs to be logical, sequenced...
(Interview 1)

Ava's comments about paragraphs, planning and organisation show an orientation to knowledge and skills as the basis for achievement in the Business Studies extended response. As already explored in Chapter 6, some of Ava's comments about the literacy demands of HSC writing tend to be generalised and do not employ linguistic metalanguage consistently, suggesting a type of epistemic relations that is weaker on occasion. For example, Ava's comments that students write using language that is 'too casual' and 'vague' as opposed to being 'detailed or factual' point to some awareness of register, without being specific about how students can write in a less casual and more factual way. Of all five teachers, however, Ava demonstrates the most specific knowledge about language, as shown in the following comments about how to structure an effective answer in the extended response for Business Studies.

Introductions and conclusions... The introduction should introduce what you're writing in your response. ... But your introduction it's supposed to tell us what you're going to tell us... your next paragraph would be about the business, not its whole life story but just what the main things do... Then you might have one on a couple of internal changes in their management and these are all paragraphs, self contained and then another one on management and any externals, links to goals. ... Then your conclusion you need to make a point. (*Interview 1*)

In this example, Ava is explicit about the contents of each paragraph of a successful extended response, and how the different stages of the answer unfold. This is the most specific account of literacy practices in the HSC examination from any of the five teachers, revealing stronger epistemic relations.

In describing her ideal lesson, Ava refers to teaching of content and processes, showing a focus on knowledge building led by the teacher. Students engage with the lesson by discussing the points raised by the teacher, reading case studies and making notes:

The ideal business lesson has got real business examples all through it, demonstrating each concept/principle. Ideally these examples are visual and drawing from current events... Then students discuss what they've seen and heard about a business and join it to the course concepts. ... The students also need and want the deep theory and make notes in a very structured format. So the best lessons are a bit of talk, write, view, read and review and cement their achievements for that lesson. (*Interview 2*)

The role of the teacher in this process is dominant with strong framing, that is, the teacher directs the sequencing and pacing of content to be taught. This example again shows Ava's strong orientation towards knowledge in her approach to teaching Business Studies.

In reflecting on the new intervention lessons, Ava describes them in terms of knowledge and what the students knew and did:

The biggest impediment to students doing well in the task was leaving out the exec summary and mostly misinterpreting 'establishment options'' and not

having enough depth of detail.... Paragraphing was better and the structure of their responses also better. They are getting more confident at writing. They included examples and wrote with less informality and more business terminology. ... I think they didn't do as well in their marks because they weren't prepared enough, didn't have the content down. A few students had their exams brought forward and so had limited time to prepare. (*Interview 2*)

These comments are oriented to syllabus content ('establishment options', 'business terminology', 'included examples') as well as the staging of the response ('leaving out the exec summary', 'paragraphing' and 'structure'). Ava also refers vaguely to register variables again ('less informality'). Even in her description of the students' lack of study, she focuses on the knowledge to be learnt rather than the students' personalities or dispositions. However, she does make one mention of their mood ('more confident').

Analysis of social relations in terms of students as knowers

Although mostly focusing on knowledge in her interviews, Ava does express some opinions about her students. For example, she makes a comment related to gender, stating that girls are more likely than boys to plan an answer:

And I have to say the other general observation I've made is that girls tend to follow instructions about writing extended responses more than boys do... Like I tell them to plan, so you'll see a girl plan. The boys won't plan. They're more gung ho generally. (*Interview 1*)

This comment suggests that gender makes some students better learners than others, indicating that some achievement is based on personal characteristics rather than skills or knowledge.

In general, even when making critical comments about students who achieve low marks, Ava focuses on inadequate preparation rather than student intelligence, social background or personality.

They haven't prepared, number one. That's the biggest problem. They don't study, don't prepare. And so that means they're just spit balling. (*Interview 1*)

In this quote, Ava attributes lack of achievement to amount of study rather than a lack of capacity or a particular disposition. This basis for achievement contrasts with the responses from other teachers who were more oriented to social relations, because for them, success or failure hinges on student background and attitudes rather than on the amount of study.

Analysis of social relations in terms of the teacher as knower

Ava does not make many comments about herself as a teacher. At one stage in the first interview she mentions that she does not like to teach the syllabus dot points explicitly in Year 11 as she is not a 'check lister'.

I do a few mnemonics. But I don't really like that brand of ... way of doing things. I'm not a check lister myself. (*Ava, Interview 1*)

Comments such as these, related to stronger social relations, are only sporadic and Ava's dominant orientation is towards knowledge. For example, when commenting on student writing, Ava refers to her 'instruction' for how to plan in a way that does not involve her own feelings or dispositions.

I told them to spend 3-4 minutes planning. They didn't all do that, but that was my instruction. (*Interview 1*)

Ava's 'instruction' is external to her persona as a teacher and therefore embodies weaker social relations. In summary, Ava's comments imply that any student can achieve (weaker social relations) if they simply dedicate enough time to learning the content (stronger epistemic relations).

Code match – knowledge code and knowledge code

Ava's willing participation in the research and commitment to the lesson plans may be due to the fact that the knowledge code of the research matched her own conceptions of what constitutes legitimate teaching and learning in her subject. An analysis of her interview responses by coding of epistemic and social relations shows a dominant pattern of stronger epistemic relations (ER+), with only a few instances of stronger social relations (SR+). In fact, most of Ava's comments relate directly to knowledge. Stronger epistemic relations and weaker social relations reveal a knowledge code, which is a code match (Maton, 2014, p. 77) with the research. This means that both Ava's approach to teaching and to the intervention emphasise knowledge, skills and procedures rather than the dispositions, feelings and backgrounds of the students or of herself as a teacher. As a knowledge code teacher, Ava is easily able to engage with the lesson plans in the knowledge code research project. This helps to explain why Ava was able to engage in the research fully compared with other teachers who were challenged by the new lesson plans. Ava's case suggests that an intervention is likely to proceed smoothly if the coding orientation of the research matches that of the teacher. In sharp contrast, the next case study, involving Brian, represents the most unsettling case study, because it posed such a strong code clash with the research.

7.2.2 Brian: code clash

Vignette

It is ten minutes before the first new lesson. I ask Brian how he would like to run the lesson. He turns to me and says, 'I'm not really familiar with the examples so can you do it?' I feel surprised as that means I have to teach the lesson to unfamiliar students, which is not part of the plan. I agree as there is limited time available for new lessons and it's now or never. Ben stands at the front until the boys quieten and then he introduces me briefly. I hand out the worksheets and start teaching but the boys are talking to each other loudly. I persevere for several minutes. Students closest to me hold eye contact with each other across the desk and maintain a loud conversation. I don't know what to do. I would have to shout to be heard over the din. Someone makes a farting noise to general hilarity from the class. I think some students are laughing at me. I turn to Brian who is at the side of the room and say 'I don't think they're responding to this, do you?' He replies, 'No. Their mind's elsewhere. They've got their assignment due.' The students still do not stop talking as Brian takes over the lesson and I pack up and leave the room.

Brian's case study raises issues of legitimacy of educational knowledge in a classroom where there is little teacher authority. When observing Brian's regular lessons before the intervention, the students seemed unsettled and talked constantly. In three lessons, Brian directed students to write notes on the board, research case studies in the library, read a newspaper article around the class, answer questions about the case study and complete a group activity to plan a business report. The audio recordings of these lessons are unintelligible due to the hubbub from the students. From time to time, Brian gained the students' attention and the noise died down momentarily. Overall, very few students appeared to be listening or engaging with the lesson, yet Brian continued to teach at the front of the room. This environment is known as an 'unscripted' classroom (Johnston & Hayes, 2008, p. 116) as the teacher maintains a facade of teaching activity while students socialise. In this type of environment, little meaningful learning can occur as students are following their own social 'script' and are not engaged in learning.

Initially, I did not consider that a lack of engagement from students would prevent the intervention from proceeding. The plan was for Brian to teach, and I would evaluate

what happened when he did so. However, in the weeks preceding the scheduled dates for the new lessons, Brian did not respond to email or phone communication so I could not arrange a face-to-face meeting. The scheduled lesson times were the only ones available in the preparation period for the students' end of Year 11 exam block so I consulted with Brian's colleague from the same school (Tony), drafted some lesson plan ideas and emailed them to Brian. There was no reply from Brian until the night before the lessons, when I received a brief email: 'I'm happy with it and look forward to putting it in action.' I assumed this meant he was prepared to teach at least part of the lessons. As shown in the vignette, however, this was not to be the case.

In an unscripted classroom like Brian's, student behaviour and the teacher's lack of authority subverted the educational context. As an outsider, I had no legitimacy as an official teacher of the class, and even Brian did not exert this authority. When the students did not listen to me, Brian made no moves to intervene and gain student attention. In hindsight, a certain level of student engagement and positive teacher–student relationships are obviously one of the conditions for effective teaching and learning, including for any explicit teaching of literacy practices. At the time, however, as a novice researcher, I was too inexperienced to notice these signs.

Analysis of epistemic relations

It was hard to reconcile enacted classroom practice with Brian's espoused orientation to knowledge. In interviews, Brian seems to have an orientation to knowledge. When asked what students needed to do to achieve high marks in writing tasks, Brian's answer refers to content and skills rather than student dispositions.

They need a good knowledge of the concepts but also to be able to apply it to case studies... If they can put an example, then that shows that they don't just know the content, they're able to apply it. (*Interview 1*)

In this comment, Brian shows an understanding of the importance of using case study examples to support theory. When asked about weaknesses in student writing in the first assessment task, Brian again focuses on what students know and do, rather than who they are.

A lot of them summarised the article but they didn't identify the internal or external influences and how it affected the businesses... The main issue was that a lot of the boys didn't read the question. Either they didn't read it or they didn't know how to respond to it. They regurgitated everything from their research... 'Analyse the impact'. That part they didn't do well.... They didn't make that link. Some of them tried to but they were very broad or general which didn't relate back to their business. (*Interview 1*)

Brian refers to syllabus points about the topic being studied (internal and external influences on a business) and attributes low achievement to a lack of reading and comprehension. As described in Chapter 6, Brian's level of understanding of the literacy practices of Business Studies is quite generalised and reliant on Board of Studies marking criteria which are also somewhat vague. When Brian states that students 'didn't make the link', he is showing a weaker orientation to epistemic relations than Ava does; however, the focus is still on knowledge, rather than on the students as knowers.

Analysis of social relations in terms of students as knowers

In addition to many comments about knowledge, Brian obliquely acknowledges that his students may not be learning, and that they do not listen to his instructions.

Sometimes you tell them about it and it doesn't sink in... It's hard to get their attention and say, this is for your assessment task, and get them to plan ahead. (*Interview 1*)

In stating that 'it's hard to get their attention', Brian hints at difficulties in engaging his students as if their 'attention' is something out of his control.

As described in the vignette at the start of this case study, when my attempt to teach was unsuccessful, rather than intervene and try to call students to order, Brian excused their behaviour. He suggested that students were distracted by a different and worthy educational goal, their assignment ('they've got their assignment due'). Attributing agency to the students in this way conflicted with my observation that students were socialising, rather than working on their assignments during the intervention lesson.

The day after the failed intervention lesson, I happened to see Brian in the playground. He told me that he had asked his students whether any of them were interested in hearing what I had to say about improving their marks in their extended responses. Brian reported that only a few students had raised their hand and he asked me whether I would like to come and speak to the students individually at recess. I explained that this was not enough time to cover the teaching points about structuring an answer and making a point and Brian said that he understood. This situation again emphasised that students in Brian's class had been given the power to decide whether or not to learn, while Brian's authority as the teacher remained in the background. I received no further contact from Brian after this and he did not reply to any emails, phone messages or notes left in his pigeon hole in the staff room. Therefore neither Brian nor his class participated any further in the research.

No code: an absence of legitimation

In terms of Specialisation, in Brian's classroom, students do not have a role as educational knowers as they are purely socialising. Even though Brian appears to be teaching 'knowledge', and talks about knowledge in interviews, his students do not seem to be engaged with learning in any way. In this kind of educational environment, the notion of 'knowledge' and 'knowers' is void because the classroom ceases to be a

site of learning. As a consequence, it is not possible to classify Brian's case study according to Specialisation codes. This is different from a relativist code, characterised by weaker epistemic relations and weaker social relations. An example of a relativist code is when students in a university setting participate in an online discussion on a range of topics which are not moderated or evaluated by the teacher (Chen, 2010). Despite a weaker orientation to epistemic relations (ER-), the online discussion is still an educational activity, whereas Brian's students were not undertaking any educational activities at all. In Brian's class, students were not learners, just socialisers, voiding the concept of an educational basis for legitimisation.

The main finding from Brian's case study is a commonsense one: that a reasonable level of teacher control is a minimum condition for educational research. In Brian's case study, there was no choice but to abandon the research. As an indication for future literacy interventions, if a classroom environment is lacking in educational legitimacy, or 'unscripted', it is not worthwhile to pursue and other case studies or classes should be found. Strategies to deal with this unfortunate situation (using an 'abandon ship' metaphor) are suggested in the Discussion section of this chapter. The next case study with Tony involves a code clash of a different kind.

7.2.3 Tony: code clash

Vignette

After the experience in Brian's classroom, I expect the unexpected. Just before the start of the first new lesson, Tony asks me to teach the class as he says he is not comfortable with the material. The students are very restless and talk a lot but most of them do at least some of the activities. Three out of seventeen students do not do any work at all. I am just relieved that the lesson can continue. One student at the back of the room seems to be doing some kind of assignment and half way through the lesson, Tony moves to the back of the room, sits next to him and talks to him at length ... while I am teaching. To my astonishment, Tony is not even listening to me or paying attention to the lesson.

This case study raises issues of teacher disengagement with the research, as shown in the vignette above where Tony does not listen to the teaching of the new lesson.

Analysis of Tony's orientation to knowledge and knowers may help to explain the cause of this disinterest. During observations of Tony's lessons, students were disruptive and disengaged, similar to Brian's students. In the lessons I observed, Tony wrote extensive notes on the board which students copied, then, in turn, students read an article around the room. This kind of teaching involves undemanding prescribed tasks typical of the 'standard script' of an 'orderly restricted' learning environment (Johnston & Hayes, 2008, p. 116), in which students tune in and out of the lesson but generally exhibit low engagement. There was a constant hum of talking and Tony rarely called the students to attention. When a student asked a question about the assignment, the noise level was so high that Tony moved nearer to the student's desk so that his reply could be heard.

In the early stages of the project, Tony appeared to be committed to participation. He communicated with me by email and phone, discussing appropriate Business Studies syllabus topics for the lessons based on where the students were up to in the unit of work, and making comments on the lesson plans and student worksheets. As described in the vignette, however, he was not prepared to teach the lessons and he did not

demonstrate interest while I was teaching. Analysis of Tony's interview data in terms of knowledge and knowers will help to illuminate the source of the code clash that led to Tony's disengagement, a source that relates to the students as knowers, rather than to the intervention.

Analysis of epistemic relations

Analysis of interviews with Tony showed that he is oriented towards epistemic relations although somewhat more weakly than Ava. When asked about the requirements for successful HSC writing, Tony describes some features of writing, such as integrating two syllabus topics and a case study in an answer. He also refers to the surface features of an answer, such as using colours to underline key points.

They need to look closely at the stimulus and use report writing format, which is underlining, colours. I used to get some really colourful responses at marking. They need to be able to integrate 2 topic areas in to the one question. That's a discriminator for high fliers.... If they write a perfect answer and don't use a case study, the maximum we can give them is 12 out of 20. (*Interview 1*)

As explored further in Chapter 6, Tony does understand some of the features of successful writing in Business Studies; however, he does not explain these in any detail or using any linguistic metalanguage. Instead, his characterisation of writing tends to be quite general and vague, as in this quote:

They may not answer the whole question. The depth of treatment is not as good as it could be ... The amount they write. The quality of the response – logically, if it's well put together. (*Interview 1*)

In this comment, it is not clear what Tony means by 'depth of treatment' or exactly what 'quality' looks like or how it can be constructed. Tony's description of his ideal Business Studies lesson also shows a weaker orientation to knowledge. Tony describes 'note taking' as his preferred way of teaching without specifying the kinds of knowledge that are contained in the 'reference points' or the kinds of skills he teaches.

I think if I put some points on the board, just like reference points, and I'll talk about those and the kids will interact and they'll ask questions, like clarifying questions, I think the lessons tend to work really well that way. Speaking from notes on the board. Good student teacher interaction. That's how I read it.
(*Interview 2*)

While Tony is specifying the basis of achievement in terms of knowledge, for example, 'reference points', and skills, for example, asking 'clarifying questions', the knowledge and skills are described in a generalised and non-specific way, thus indicating weaker epistemic relations.

Analysis of social relations in terms of the teacher as knower

In interviews, Tony makes many enthusiastic comments about his students, even when unprompted by the researcher. Many of Tony's interview comments are oriented to social relations, about himself as a teacher and about his students. Tony often speaks of his own experience as an HSC marker, positioning himself as a subject knowledge expert.

I used to get some really colourful responses at marking. (*Interview 1*)

He also talks about his past when he was a student at school, and how he had been an excellent student in the 'top stream', writing long essays as early as Year 9, which his current students could not do. Through these comments, Tony positions himself as an expert in writing and in his subject.

Analysis of social relations to students as knowers

Without prompting from the researcher, Tony discusses his students at length, revealing strong opinions about his students. He is highly critical of his current Business Studies students for dispositions and personal qualities that are not conducive to success.

The group who do Business Studies is quite a range... They're pretty immature in some respects... This school doesn't attract top students and Business Studies doesn't. But my Economics class are really impressive. They'll politely listen at the beginning of the lesson and they can't wait to get on and make notes from their text book. Business Studies students are different; they're a mix, much noisier. (*Interview 1*)

Thus, according to Tony, as a group, Business Studies students have a different inner nature, being 'noisy' and not cohesive, 'a mix'. Tony's choice of the term 'noisy' indicates a disposition towards the students that endows them with innate qualities beyond his control. Tony's comment also sorts students into two groups, thereby creating a mental picture of his preferred student, the ideal knower: quiet, studious, polite and studying Economics. By construing students in terms of what they 'are', Tony implies that their inner qualities are unchangeable and beyond his control. If a student is noisy, he is unable to gain high marks. This means that the personal qualities of a student are the basis for achievement, indicating stronger social relations in Tony's disposition towards his students.

Tony makes several comments about his students' limited capacity to learn. In the following comment, he states that students do not cope well when moving from Commerce in Year 10 to Business Studies in Year 11:

The quantity and the complexity of the questions just overwhelms them.
(*Interview 1*)

Again, the disposition of his students (i.e. 'overwhelmed') limits their capacity to engage with examination questions in senior schooling.

In contrast, Tony describes his best Business Studies student as a 'top student' and juxtaposes this student with the rest of the class. His top student is 'quiet' in contrast with the other 'noisy' students.

He's a really good student, really quiet. I've had them making notes from the sections on Chapters 13 through to 17. He and one of the other guys, they're finished. They're just done! He's very much a potential Band 6. One of the kids who tends to get academic awards in the middle of the year, end of the year, wouldn't say boo to a goose. He stands out because he's so quiet in the class, you know. A lot of others, they're so friggin' noisy. I say it's the Mediterranean influence. (*Interview 2*)

Tony's stronger orientation to social relations is reflected in this comment where he explains the students' innate 'noisiness' as arising from their ethnic background, 'the Mediterranean influence'.

When asked about his opinion of the research intervention, Tony attributes responsibility to the students:

But those boys being those particular boys, they didn't really bring it up again, in terms of the input you provided. I guess for them they saw it as a one off ... it doesn't count kind of thing. (*Interview 2*)

By positioning the students as 'those being those particular boys', it is assumed that they naturally do not see the value of the knowledge being presented. Instead, the intervention is a novelty that does not 'count'. Similarly, Tony explains that the students' lack of achievement in the second assessment task has nothing to do with teaching and everything to do with their innate dispositions.

Some of them didn't do particularly well and I don't think they were engaged in the subject. There were three or four of them that dropped the subject so I don't think they were making a genuine effort to get involved, you know? (*Interview 2*)

By placing the onus on students to be 'engaged' and to make an 'effort to get involved', Tony demonstrates stronger social relations to his students as knowers. Ironically, Tony did not engage with the research, while his students did participate to a certain extent. This analysis, and Tony's stronger orientation to social relations, raises the issue of whether he thought that the students were capable of learning. His many comments

about limited student capacity show that he has positioned his students as non-ideal learners in contrast to his Economics students. To further this line of inquiry, the concept of the legitimate or ‘ideal knower’ (Maton, 2014, p. 32) will be explored in relation to Tony’s interview data.

The ideal knower and a knower code

Tony’s interview responses present two contrasting models of student: ideal students, represented by the top student and Economics students, and non-ideal students represented by the majority of the group in Business Studies. Descriptions of Economics students as ‘quiet’ and Business Studies students as ‘noisy’ reveal an ideological positioning of the first group as ideal and the second as non-ideal. Contrasting descriptions of Economics students versus Business Studies students create ‘axiological cosmologies’ (Maton, 2014, p. 154), which are groups or ‘constellations’ of wordings that set ‘the relative value of legitimation codes within a field’. By using contrasting Epithets to describe Economics students and Business Studies students, Tony constructs two constellations ‘through a process of association whereby ideas, practices and beliefs are grouped together and contrasted to other groups’ (Maton, 2008, p. 17). Constellations often appear as binary opposites, creating the possibility of a table that shows two opposing sides. In Table 7.1, Tony’s descriptions of his students have been summarised as two constellations: the ideal Economics student and the non-ideal Business Studies student. Although they are not expressed explicitly in the interview data, the words in brackets are the implied opposites of his statements.

Table 7.1: Constellations of knowers in Tony’s Business Studies and Economics classes

non ideal knower	ideal knower
Business Studies students	Economics students / top students
immature	(mature)
noisy, so friggin’ noisy	quiet, wouldn’t say boo to a goose
(not top students)	top students, really good students
not engaged	engaged
don’t make a genuine effort and get involved	(make a genuine effort and get involved)
overwhelmed by examination questions	(cope with examination questions)
(achieve poor results)	win academic awards and achieve Band 6
(unimpressive)	impressive
(not polite, do not listen)	politely listen
(uninterested in making notes)	can’t wait to make notes
Mediterranean background	(not Mediterranean background)

Analysing these constellations of knowers may assist in interpreting Tony’s comments about the research and his lack of engagement in the intervention. These constellations show that Tony has fixed ideas about the limited academic capacity of his Business Studies students, due to their immaturity and tendency to be ‘overwhelmed’, along with their ethnicity (‘Mediterranean’). These qualities have nothing to do with skills, knowledge or procedures but are entirely concerned with the students’ lack of personal attributes that would make them a ‘legitimate kind of knower’ (Maton, 2014, p. 32) in contrast with the Economics students. Tony’s descriptions of his Business Studies students as being somehow unworthy are legitimated by reference to this ideal knower’s

attributes, that is, the attributes of the Economics students. If the Business Studies students are non-ideal and if this is an absolute and immutable quality, then it stands to reason that the intervention would be unsuccessful.

Characterisation of Tony's Business Studies class as non-ideal knowers may provide a reasonable explanation for his own lack of engagement in the research. If Tony believes his Business Studies students are not capable of learning, then there is no reason to be engaged in the intervention, or for him to pay attention. This finding is supported by research that some teachers assume that some groups of students cannot or will not learn (Timperley et al., 2007) and represents a 'deficit discourse' (Comber & Kamler, 2004). This may explain why Tony did not listen while I was teaching and why he did not revise the content of the intervention lessons with his students.

Insights into Tony's view of the ideal knower help to illuminate his attitudes and beliefs about his students, manifesting in a strongly held knower code, a code that clashed with the knowledge code of the research. Tony's conceptions of the ideal knower were not compatible with the weaker orientations to social relations in the knowledge code intervention, in which any student could be taught new writing skills and could be expected to improve. In a situation with such a fundamental code clash, a literacy intervention is unlikely to be productive. If Tony's views about his students had been more clearly understood by the researcher before the intervention, it would have been more productive to withdraw from Tony's class and seek a code match in another classroom elsewhere. In this situation, professional development is not productive and it would have been better to withdraw from this class, another case of 'abandon ship' as described in the Discussion in Section 7.4.

7.2.4: Dianne: code clash

Vignette

As the bell rings for the start of the lesson, Dianne rushes in and grabs the intervention lesson plans off her desk. Her four students are waiting politely in the classroom – it's a small and co operative class. Dianne starts to teach something else, not the lesson plans. Instead, she writes a list of features of successful answers on the board and discusses them with the students. I am not sure whether to intervene or not but I decide not to, as I don't want to interrupt and upset her. After the lesson, there is no chance to talk about her choice of teaching activities as she leaves immediately for soccer practice. In the second lesson of the intervention, Dianne again teaches something else. She covers the same topic as the lesson plan (music diagrams) but she does not follow the lesson plan. Instead of giving the students an opportunity to contribute, she draws on the board and talks to them. Later, in the final interviews, when I asked why she had not used the lesson plans, Dianne said 'I suppose the fact that I didn't come up with them. I sort of had to follow instructions.'

In this perplexing case study, Dianne did not teach the lesson plans we had collaboratively developed. The nature of Dianne's knowledge code will be explored, along with the nature of the clash as a possible explanation for her diversion from the research plan.

In the observation stage, it became clear that Dianne's preferred method of teaching Music aural is to practise past HSC papers. Her typical approach is to keep the answers in front of her while she plays a CD of musical excerpts and the students work through examination questions. The teacher's relationships with students in the classroom seemed to be positive and productive. Dianne always had control and the four students in her class were compliant, co-operative and moderately engaged in the practice papers.

Collaborative planning was an essential part of the research design and Dianne had participated in this process. From my perspective, I had not issued 'instructions' to Dianne, as in her interview comment, although she had felt that this was the case.

Months earlier we had met to discuss ideas for possible teaching points based on her students' work and the features of high achieving student writing for the HSC exam. Dianne and I had discussed several options then agreed to focus on three teaching areas: structuring an answer, making a point and drawing diagrams to support an answer. Dianne was invited to select musical excerpts for the lesson and she had asked me to select some excerpts related to her unit of work on Jazz. I emailed draft lesson plans to Dianne three weeks before our consultation meeting. We met in the week preceding the new lessons to discuss the plans and elicit her opinions. I gave her the lesson plans to review and we discussed every section of the new lessons. At the time, Dianne had no changes to make and I gave her the CD containing the excerpts to listen to before the lesson. On the day of the lessons, Dianne seemed unprepared. Instead of teaching according to the plan, she wrote a list of key words on the board for the students to copy and then she wrote an examination answer by herself on the board while the students watched and listened. The students were not exposed to any new ideas as intended by the lesson plans. The discussion below regarding knowledge codes may provide some insight into why Dianne may have made these choices in her teaching.

Analysis of epistemic relations

The data from interviews and classroom observations show that Dianne has a strong orientation to epistemic relations, as she emphasises knowledge, skills and procedures as the basis of achievement in her class. As will be explored, however, her conceptions of knowledge differ from the knowledge in the intervention lessons.

In interviews, Dianne acknowledged that the only way she prepares students for the written HSC examination is by practising past papers i.e. by drilling:

If you start from Year 9 and you drill into them, by the time they get into Year 11 they're confident enough. So I always drill into them, structure, exams and

work things the way that it would be seen in senior subjects so they're already used to how to structure their answer, terminology, time limits. They're getting used to that from year 9, from the word go. So I've always set out an exam paper, 4 questions, 4 listenings and they're just so used to it now. (*Interview 1*)

Dianne clearly has a preferred way of teaching and it is possible that her rejection of the new lesson plans was due to the fact that they did not involve drilling.

As described in Chapter 6, Dianne demonstrates her understanding of several of the most important features of a successful answer in music, including answering the question and organising the answer in sections with headings:

They need to know how to structure an answer. They need to be able to know how to respond to question in the time limits that they have... They have to look at the question. Everything has to relate to the question.... (*Interview 1*)

These comments show Dianne's understanding of the importance of exam technique and directly responding to the exam question. When describing weaknesses in student writing, Dianne refers to the quantity students have to write:

It's generally that they don't elaborate... They need to write more... It's like he's afraid to elaborate... They know the information but it's just getting more out of them. (*Interview 1*)

This comment shows two features that are typical in Dianne's interview data. Her focus on knowledge does not include technical language, and it does not reflect the connectedness between concepts of music. Dianne knows that her students have to write longer texts, but she does not specify how students can achieve this. Also, she knows that students need to use musical terminology but she does not indicate an understanding of where the terminology fits in the taxonomies of musical concepts.

Terminology of course... I always encourage them not to say fast but to use the appropriate term for fast... He doesn't elaborate, thicker texture... give me the proper word ... (*Interview 1*)

When I probed Dianne for any specific teaching strategies for teaching musical terminology she said:

I do encourage them. Sometimes they do say- the melody or the riff, this or that. I always say to them, 'What instrument is it?' (*Interview 1*)

Dianne's use of technicality is low when she refers to concepts of music, for example, 'this or that'. Comments like these suggest that Dianne's own understanding of the organisation of the concepts of music may be a little inexact or hazy. This is not surprising as the exact requirements of the concepts of music are part of the hidden curriculum as explored in Chapter 4.

In the final interview, when asked about her ideal lesson in Music, Dianne found it hard to answer the question. The interview questions had been emailed to Dianne before the interview so she had time to reflect, but she did not seem prepared for the question. Finally, she made some comments about activities (discussion, talking in class) rather than content, in other words, without making any reference to knowledge.

Often it involves good discussion, not just me talking.. ..For me, I often find that no matter what class I'm teaching or what subject I'm teaching, if we're actually talking about the material as opposed to me writing on the board, you copy it, let's read through it and be done with it, have a discussion about it, that works well and that's a successful lesson for me. (*Interview 2*)

This comment is ironic considering that the lessons I observed in Dianne's classroom involved little discussion. Her preferred teaching method is drilling of HSC answers and in the intervention lessons, Dianne diverged from the lesson plans and wrote material on the board which students copied. These comments indicated some inconsistencies between what Dianne espoused, and the actual teaching methods used in her classes.

Analysis of social relations in terms of students as knowers

Dianne made few direct comments about her students' innate qualities or personal attributes. She made several references to one student who was 'afraid to elaborate' as he did not write enough in his answers. She also mentioned that her students were not 'confident' in using traditional music notation; however, these were the only comments that referred to her students' dispositions or feelings. All other comments related to student achievement, with knowledge or skills as the basis of achievement, thus indicating stronger epistemic relations. For example, when asked why one of her students had achieved a poor mark in an answer, her reply relates to aural discrimination and what the student failed to notice, rather than to his personal attributes:

This piece had a lot of unconventional sounds, like cash registers and toy sounds... he didn't make any mention of the most obvious thing. (*Interview 1*)

Dianne's focus on knowledge and skills as the basis of achievement, as opposed to student attributes, reveals a weaker orientation to her students as knowers. However, Dianne also revealed an orientation to *herself* as a knower, which will be explored next.

Analysis of social relations in terms of the teacher as knower

Dianne displayed stronger orientations towards herself as a knower. She made several comments indicating assuredness and confidence in her own teaching methods. When asked about how she teaches different aspects of the music concepts, Dianne replied:

I've just come up with my own way of teaching that to them. (*Interview 1*)

As Dianne has her 'own way' of teaching, it is possible that the new lesson plans, with their design based on modelling, joint construction and independent construction were too different from her own methods of drilling examination answers. After the research, when asked what she thought about the research, she said:

I think us working together was really good because the boys got to see it's not just me who insists on certain things when trying to get good results, that there's an outsider who doesn't teach here who's an expert in this field who also agrees with me. (*Interview 2*)

These two comments attest to Dianne's assured teaching of knowledge about concepts of music. The researcher is positioned as 'an expert in this field who also agrees with me' which is somewhat surprising as Dianne seemed not to agree with the proposed lesson plans and alternate pedagogy. Dianne's sense of being an expert teacher is also reflected in her comments about the students' perception of her as tough and demanding.

They think I'm too tough on them. I don't know if I am. I don't know if I expect too much. (*Interview 1*)

Dianne also connected the qualities of 'toughness' and high expectations in a comment in her final interview:

Sometimes I push them down a bit so they feel they have a bit more to work towards. Just to be that extra tough. (*Interview 2*)

In these comments, there is a sense that being tough is a sign of Dianne's expertise as a teacher. This quality is more concerned with her own personal attributes rather than knowledge, skills or procedures, so they indicate stronger social relations in terms of herself as a knower.

In the final interview, I tried to explore reasons why Dianne had not taught the lessons so I asked her 'what got in the way' of teaching according to the lesson plans. Dianne's reply provides an insight into her strongly bounded knowledge code, one which resists any new knowledge:

I suppose the fact that I didn't come up with them... I sort of had to follow instructions if that makes sense... I just felt like it wasn't me delivering my most confident lesson because I had to check what track goes with what. Because normally I've got my worksheets. I know exactly what I'm doing today and I know what track. I know exactly what I'm about to discuss. (*Interview 2*)

In this answer, Dianne reveals that she feels that she did not 'come up with' the lessons. My attempts to collaborate with Dianne had been insufficient to build a sense of shared ownership of the new lessons, and as a result, she feels as though she is following 'instructions'. She also does not like using the CD I had prepared ('check what track goes with what').

Code clash of knowledge codes

Dianne's lack of engagement in the intervention can be explained by a code clash between the knowledge code of the intervention and Dianne's knowledge code. In terms of student achievement, Dianne is a knowledge code teacher in that student attainment is based on knowledge, procedures and skills. In terms of her own role as a teacher, however, Dianne has a knower code orientation, as her legitimacy as a teacher is based on her own personal attributes (being an 'expert' and 'tough'), rather than on her knowledge of the curriculum or her pedagogic skills. As an expert, Dianne's knowledge is already complete and self-contained, based on her own sense of self as a special knower. Consequently, she may not be open to new ways of doing things. Even though Dianne participated in the consultation process, she evidently had not agreed with the lesson plans, and so she reverted to her own knowledge code for her teaching. Her orientation to her own knower code as a teacher with the status of an 'expert' may have clashed in some way with the researcher's knowledge of music as an alternate 'expert'. Understanding Dianne's orientation to knowledge and knowers goes some way towards an explanation of her lack of engagement with the lesson plans.

Reflection on Dianne's case study suggests alternative ways of dealing with a situation where a teacher has a self-contained knowledge code. In a case such as Dianne's, it could be important to build shared professional knowledge before attempting a research intervention. Interview and classroom data show that Dianne and the researcher had different understandings of the knowledge of the subject and of the appropriate pedagogy for teaching Music. In contrast to the models of knowledge and pedagogy proposed by the research intervention, Dianne's knowledge involved lower technicality and a more limited range of pedagogic practices. In such a case, the nature of knowledge to be covered in the research needed more careful negotiation before proceeding to the classroom. In hindsight, it appears that Dianne and I did not understand each other. By analysing early interview data and lesson observations in terms of Specialisation, it would have been possible to recognise the low technicality and self-contained nature of Dianne's knowledge code and to make the necessary adjustments to the research plan. It could have perhaps been more productive for both of us to engage in professional discussions such as think aloud marking of student work, close analysis of HSC markers' comments, and more detailed sharing of research findings. Discussions could have placed more emphasis on alternate pedagogies to drilling, including the Teaching and Learning Cycle. These kinds of activities would have involved a redesign of the research process to meet the particular needs of the teacher, in other words, a 'changing tack' strategy that will be elaborated in the Discussion.

7.2.5: Natalie: code clash

Vignette

An observation lesson in Natalie's music classroom is underway. Thirty students listen to music excerpts played very loudly through the sound system. Then Natalie directs students to stand up and move to a position in the room based on the sequence of chords they have heard. One position is where students must stand if they think the progression is from major to minor. Another position is minor then major. A third is major then major and a fourth position is minor then minor. There is a lot of talking and confusion as students move into positions. They do not seem to understand the instructions. Later students hum an arpeggio that they hear in an excerpt and raise their hands when they hear chords change in the music. At the end of the lesson, Natalie tells the students to make their own notes about what they learnt today.

The intervention lessons in Natalie's classroom proceeded smoothly and according to plan. Yet interview data suggest that Natalie's enthusiastic participation in the research may have been due to the type of teaching activities in the lesson plans rather than a code match with the knowledge code of the intervention. As will be described below, this research was an opportunity for a teacher oriented to social relations to also engage with knowledge.

Observations of lessons in Natalie's classroom, like the one described in the vignette, showed that teaching and learning involved group work, listening and movement and little or no writing. In a large class of 24 students, relationships seemed to be productive and respectful. Natalie displayed a high level of control over the class and students were co-operative and engaged.

Analysis of epistemic relations

Interview data indicate weaker epistemic relations to knowledge in Natalie's comments. As explored in Chapter 6, Natalie understands several features of successful writing, including the importance of musical terminology; however, her teaching approach does not involve explicit teaching of the concepts of music. Analysis of Natalie's 'word wall'

indicates an atomistic understanding of the knowledge of the subject, where individual terms and words are taught whenever they arise rather than in a systematic way. Natalie does not teach explicitly how to identify concepts of music. Instead, she integrates classroom talk about concepts of music into lessons on other focus areas, such as performance or composition.

I think people have to get rid of ‘it’s an aural lesson’. I don’t have aural lessons. I have music lessons. In that lesson today the boys composed and performed and when they finished their performance, I asked three other boys in the class, ‘Who had unity? Who had contrast? Which instrument played the ostinato?’ ... I think it’s a big mistake to go in and have an aural lesson. Mix it up. Keep them on their toes. (*Interview 1*)

The three questions Natalie asks her students are quite vague and hard to analyse. Unity and contrast are principles of composition which are created through configurations of concepts of music. A student does not ‘have’ unity or contrast, and a better question may have been ‘What aspects of this boy’s performance built unity or contrast?’ The third question, about ‘ostinato’, is more specific and relates to a repeated pattern of pitches or rhythm. Given that she thinks that explicit teaching of aural skills in a separate lesson is a ‘big mistake’, it is somewhat surprising that she agreed to participate in this research project.

Natalie’s preferred teaching strategies involve group work and peer teaching which are typical of progressivist teaching approaches. Concepts associated with this approach include student-centred learning where students construct their own interpretations and meanings through the lens of their own unique experiences (Mayer, 1999). In this approach, the role of the teacher is as a facilitator rather than as a teacher. In fact, progressivist pedagogies do not feature explicit intervention by the teacher in the student’s learning. These strategies indicate weaker epistemic relations and stronger social relations, as each student’s personal development is emphasised and the

knowledge to be learnt is downplayed. Comments from Natalie in relation to her teaching are dominated by references to her students, revealing these kinds of stronger social relations to knowers.

Analysis of social relations in terms of students as knowers

The basis of achievement in Natalie's classroom is the students' happy and comfortable dispositions. For Natalie, learning is all about group work and fun:

I'm very hands on and they'll have a lot of fun. (*Interview 1*)

I think a lot of it is group work. I do heaps of group work to take the pressure off the individual. (*Interview 2*)

Her key indicator for an effective lesson is student engagement in group work. When asked about her ideal lesson, she says:

When you're getting a lot of responses. When you can see interactions, even if the child's not comfortable responding to you, if they're doing group work you can see that there's not someone off to the side. So I think that sort of thing can be working really well if they're all engaged I supposed. (*Natalie Interview 2*)

The knowers – the students and their fears and attitudes – are foregrounded while what they need to learn (the knowledge) is less emphasised. She also refers to other progressivist concepts such as group work, varying teaching styles and the importance for students to construct their own interpretations of meaning.

I think group work. I think mixing up group work. And making students responsible for their own learning and making it OK for them to discover something by themselves. Then they'll recognise it and keep it longer. And I think a lot of peer learning, making them having to teach someone else, makes them able to understand what they're explaining but also it makes them responsible for their own education. Which I think is important to instil.

I suppose those things, and just variety of teaching styles. Especially for the 20 something that were in there. If I'm only teaching in one way, and not helping those who are kinaesthetic or that are visual learners, then forget it, I'm going to lose those students. (*Interview 2*)

As in the lesson I observed (reported in the vignette above), students had time at the end of the lesson to make their own notes. These notes were not checked or referred to again in class. However, Natalie mentioned these in an interview:

I don't spend a lot of time, this is the definition, write that down... Some teachers give out a glossary and things like that. I think the kids don't read it. I think they're better to build it themselves. So that's up to them... And toward the end if there are a couple of gaps there, I might put out a cheat sheet or something, but I think they need to find it first. (*Interview 1*)

In other words, students have to 'build' or 'find' their own knowledge from the experiences in the lesson. If students have 'gaps' such as misunderstanding of musical terminology, this knowledge is a 'cheat sheet', suggesting that providing a glossary or fact sheet is not authentic knowledge.

Natalie's comments in interviews are predominantly about her students' attitudes, dispositions and emotions. She characterises her students as insecure, nervous and anxious users of language. When asked what students need to do well in their writing to achieve high marks, Natalie talks about their weaknesses rather than strengths.

I think getting it from head to paper is the big issue. Most of it's in their head. They just can't articulate it. Most of them freak out when it's got to be written down. A lot of the stuff I try to do is to take the writing out of it, to get them feeling confident with what they know then put it on paper at the last step because I see that sort of is a roadblock. (*Interview 1*)

Even though the students have knowledge ('it's in their head'), a lack of confidence prevents them from writing about this knowledge. Not only do they 'freak out', but students are limited in their intellectual capacity to read and understand as well.

Especially with music students. They're not always the sharpest tools in the shed. And a lot of the time you get high needs students and stuff like that. They can't unpack a big document. (*Interview 1*)

Natalie perceives that students need protection from language. It is not surprising then that she only introduced writing tasks two weeks before the students' first Year 11 written assessment task.

Analysis of social relations in terms of the teacher as knower

Natalie makes few comments that relate to her professional role as a teacher. She mostly relates everything to her students. For example, she positions herself as a protector and mentor of the students, as she strives to build their confidence and self-esteem so they don't 'freak out' or feel anxious. She does, however, make one comment that suggests a special type of social relations to knowers. As a teacher, she knows her students very well and in fact, she has unique insights into how they like to be taught.

I think they need... other people probably teach it different to what I would... I know how my kids take it on... because all the stuff I did for the previous paper, they didn't put pen to paper until 2 weeks before. (*Interview 2*)

This comment about knowing her students so well shows a 'cultivated knower code' (Maton, 2014, p. 119) whereby, rather than following her own personal preferences, Natalie's teaching approach is based on her deep understanding of her students and what her students prefer. This cultivated gaze is not defined in terms of epistemic relations to knowledge but in terms of her expertise in knowing her students. Dianne also refers to herself as an 'expert' but she gives no explanation for her expertise. In Natalie's case, her constant reference to the students' feelings and their learning preferences give her a cultivated gaze that justifies her choice of teaching approaches.

Code clash – knower code

When asked her opinion about the research, Natalie's comments involve the types of activities undertaken by the students rather than the knowledge they learnt. These comments also suggest reasons for her interest in the research intervention:

I think just the variety of the activities were really nice for the boys and the type of music was quite relevant to them and they could take from it, enjoy it. I think most of it was quite positive. I think that the whiteboard activities were quite good. ... I really enjoyed using that with the boards because they're a lot less scared of using the language because it's not permanent... (*Interview 2*)

The students' enjoyment and confidence are paramount for Natalie and so the impermanence of the whiteboard markers during the lessons releases them from their fear of writing. This suggests that Natalie's enthusiastic teaching of the new lessons was not due to the knowledge being taught, that is, strategies for organising an examination answer or 'making a point'. Instead, she was keen on the whiteboard activities, group work and enjoyable musical excerpts. These comments still indicate strong social relations to knowers, as legitimisation of the intervention is based on student feelings ('really nice for the boys', 'enjoy it') and not based on academic achievement. It was only coincidence that I suggested the use of whiteboards and group work in the lesson plans, yet these were the aspects that captured Natalie's attention rather than the content knowledge of the lessons.

Even though Natalie's knower code clashed with the knowledge code of the intervention, the incidental choice of group work activities and use of small whiteboards enabled Natalie to engage fully with the research. This seems to explain her active participation in the research and exact adherence to the lesson plans. It also accounts for her interview comments that did not mention the knowledge covered in the lessons.

Interestingly, after the research was over, Natalie told me that she had designed a new unit of work that seemed to be more strongly oriented to knowledge. My analysis of student writing in the final examination indicated that Natalie's students struggled to correctly name musical instruments, and I had discussed this issue with her. Natalie's new unit of work, directly following the research, was to teach the names and sounds of the most commonly used musical instruments.

For Aural, the main thing I did was to change the unit to an instrument recognition unit for Instrument and its Repertoire. I turned that totally into an instrument recognition unit with a lot of focused listening and instrument specific articulation and identifying that and comparing it, understanding what a single reed sounds like as opposed to a double reed. (*Interview 2*)

This comment could perhaps be a hint of a new orientation to epistemic relations to knowledge that may have been encouraged by Natalie's participation in the research. Natalie's case study shows that it can be possible to manage a potential clash between knowledge and knower codes. If the teacher has a knower coding orientation and the research represents a knowledge code, knowledge can be 'disguised' in classroom activities in ways which are congruent with the knower code, for example, in group work, drawing on whiteboards, student choice of activities and so on. The discussion section that follows will suggest that it is possible to continue in research environments characterised by a coding clash if the common ground between the researcher and the teacher is maximised.

7.3 Discussion: negotiating code clashes and code matches

Researchers engaging in classroom work with teachers often face unanticipated challenges that can conflict with research intentions. All five teacher participants in this research espoused commitment to the project yet three of the five teachers did not teach the new lessons as planned. LCT (Specialisation) has provided a framework for

investigating possible explanations for teacher engagement or lack of engagement in this research. By analysing teacher interview data in terms of epistemic relations to knowledge and social relations to knowers, it has been possible to perceive the research process as a series of code clashes and code matches with the intervention lessons.

The intervention can be seen as a knowledge code, because the content to be taught was emphasised and the dispositions of learners were downplayed. In developing the lessons and discussing them with teachers, the researcher was primarily concerned with knowledge, that is, the explicit teaching of the features of successful answers. By understanding the research intervention as a knowledge code, it was then possible to evaluate other bases of legitimacy, such as knower codes where dispositions of learners are emphasised and knowledge is downplayed. This analysis enabled the evaluation of the case studies as a series of code clashes and code matches (Maton, 2014, pp. 73-74) with the knowledge code of the intervention lesson plans. A summary of coding matches and clashes is presented in Table 7.2.

Table 7.2: Code clashes and code matches in case studies

Specialisation code of the lesson plans	Specialisation code of the case study	Case study	Code clash or code match
Knowledge code	knowledge code	Ava	code match
	no legitimacy	Brian	code clash
	knower code	Tony	code clash
	alternate knowledge code	Dianne	code clash
	knower code	Natalie	code clash

Ava's case study was a code match because the knowledge code of the research plan was similar to her approach to teaching and learning, with an emphasis on knowledge and downplaying of the personal attributes of her students. This may explain the smooth

progress of the research with Ava, because a code match means there is less chance of the research participant misunderstanding the research objectives or diverting from the plan. In the case of a clash, however, there is a need for strategies to reformulate research objectives or to find new participants.

Code clashes occurred in the other four case studies. In the cases where the teachers did not engage with the research or follow the plan, there appeared to be a code clash with the knowledge code of the intervention. Three strategies based on sailing metaphors are proposed for dealing with clashes:

1. *Abandon ship*: Where the clash is fundamental and insurmountable, the only course of action is to withdraw and seek more fruitful research opportunities elsewhere.
2. *Change tack*: Another strategy is to change course by altering the research design and redirecting the intervention.
3. *Weather the storm*: Continue the intervention despite a clash, downplaying areas of difference and maximising the aspects that match.

Two of the case studies warranted an 'abandon ship' strategy. Brian and Tony (Case Studies 2 and 3) promoted a knowledge code in interviews but their enacted teaching practices and their interview data revealed a code clash. The lack of teacher authority in Brian's classroom resulted in an educational vacuum where no legitimate knowledge could be taught or learnt. The students' social 'script' (Johnston & Hayes, 2008), shown by constant socialising and inattention, overpowered the learning possibilities of the classroom. When there are unproductive relationships between teachers and students, there is no basis of legitimation: no educational 'knowledge' and no educational

‘knowers’. As this kind of classroom environment is not conducive to educational research, it is perhaps better to abandon ship and find other collaborators.

Another code clash occurred in Case Study 2. Tony had a knower code orientation to his students, perceiving them as a special type of knower: non-ideal knowers. Tony’s interview data revealed beliefs and attitudes about Business Studies students as being incapable of learning due to their lack of engagement and limited intelligence. His comments construct the ideal knower, represented by quiet, diligent Economics students, in contrast with the non-ideal knower, the noisy, disinterested Business Studies students. These constellations may explain Tony’s personal disinterest in the research as he seems to ‘blame’ his students for their lack of ability (Bintz, 1997), implying that they do not have the correct disposition for learning and there is no point in trying to teach them anything new. These views about the ideal knower represent a fundamental code clash with the knowledge code of the intervention, which is based on the idea that any student can participate in learning.

In Case Study 3, Dianne’s espoused orientation to knowledge made it appear as if the research would proceed as planned. Analysis of interview data show that a different kind of knowledge to that promoted by the intervention, ‘my own way’, was the basis of legitimacy in Dianne’s classroom. By positioning herself in the role of an ‘expert’ with her own knowledge code, Dianne was insulated from new knowledge. This could explain why Dianne did not follow the lesson plans and instead taught something different.

When interview data revealed a code clash between Dianne’s knowledge code and the research knowledge code, the strategy should have been to ‘change tack’. The research

plan of having Dianne teach new lessons should have been reviewed, and more time should have been spent with her in professional dialogue, in order to explore the nature of our differing knowledge codes and to find common ground. In Dianne's case, a more fertile area for discussion may have involved close examination of Board of Studies documents and perhaps 'think aloud marking' of exemplar answers from the Standards Packages. In addition, it may have been useful to expose Dianne to a range of possible pedagogies including the Teaching and Learning Cycle and group learning activities to expand her repertoire of teaching practices. It may be possible that such a discussion would be too great a challenge to Dianne's orientation to herself as an 'expert' and she may still have been unwilling to change. With the benefit of hindsight, however, a change of tack in the research plan may have helped me to understand Dianne's approach to teaching and learning and possibly to build shared understanding of the content knowledge of Music.

In the final strategy, 'weather the storm', a code clash may occur but the research can continue. Natalie, a knower code teacher, focused intently on her students' anxious dispositions and their fear of writing, blinding her to the knowledge of the subject area. Even though the prospect of 'fun and games' through group work and whiteboard activities attracted Natalie to the research, the lessons were taught according to plan nonetheless. Natalie was willing to engage in explicit teaching of knowledge during the intervention despite her knower code orientation to progressivist teaching approaches because the lesson plans 'looked' like progressivist lessons. This is an important lesson for literacy educators who are striving to find common ground with teachers who adhere to these approaches. By designing a sequence of teaching and learning activities which involves explicit instruction from teachers but also involves group work, student choice and interaction, it may be possible to engage some knower code teachers. Teaching and

Learning Cycle, in fact, allows for students to interact with each other once the key teaching areas have been modelled and practised with the teacher. In this way, activities during the joint construction stage of the Teaching and Learning Cycle could help to sustain the interest of progressivist teachers, to engage them for long enough to see what explicit teaching can do for their students' writing and level of achievement. Natalie's decision to create a new unit of work for her class after the research, in order to deepen her students' knowledge of the sounds of musical instruments, suggests that the research may have had an effect on Natalie's coding orientation, strengthening her orientation to knowledge. This again shows the potential of disguising knowledge inside activities more typical of knower code pedagogies.

7.4 Conclusion

In summary, Specialisation has expanded the analytical potential of this thesis by helping to account for levels of teacher engagement or disengagement in this research, and thereby answering RQ 3. Factors that account for levels of teacher engagement involve orientations to the content knowledge of an intervention (epistemic relations), as well as orientations to social relations of knowers. By exploring teachers as knowers and students as knowers in this research, a range of code clashes became apparent which help to explain unexpected research events. This analysis shows, firstly, the importance for literacy educators attempting an intervention to understand the Specialisation code of their own research, and also to be alert to teachers' Specialisation codes before proceeding with an intervention.

It is reasonable to propose some implications for future educational research.

Identifying Specialisation codes in the research design and in the participants should be part of regular, systematic research preparation. When participants are recruited,

understanding the likely orientation codes of teachers involved in the research may provide indicators as to whether the teacher is likely to see the research through and whether the research design is likely to be implemented. If Specialisation analysis occurs early in the research process, for example, as part of the participant recruitment and initial consultation, literacy researchers may become aware of potential clashes and problems sooner. This may save time and require recruitment of new participants.

Three strategies have been suggested to help a literacy intervention to ‘maintain its current heading’ and achieve its aims, despite setbacks and challenges that may arise due to code clashes. In future educational research, the range of strategies for dealing with code clashes should be further explored and documented in more detail. The ‘abandon ship’ strategy is quite straightforward, but if the researcher is alert to potential clashes through early identification of participant coding orientations, this may occur less frequently. This chapter has suggested a few strategies for ‘changing tack’; however, a fuller repertoire of creative research practices should be explored for building shared knowledge with teachers as part of literacy interventions. In order to disguise knowledge through knower code activities, group work and the use of small whiteboards has been suggested, but a far greater range exists and this is a fertile area to explore in other research situations. In summary, Specialisation is a useful analytical tool due to its explanatory power and applicability to literacy education research contexts.

CHAPTER 8:

Towards an integrated model of knowledge and knowers for effective teaching of disciplinary literacies

8.1 Introduction

Effective teaching of disciplinary literacies involves construction of knowledge as well as knowers, two dimensions that will be explored in this final chapter. Knowledge of the linguistic and multimodal features of successful HSC examination answers in Business Studies and Music was presented in Chapters 4 and 5. This explanation, informed by Systemic Functional Linguistic (SFL) and semiotic theory, revealed how language and images are ‘used as a creative resource for constructing different sorts of knowledge’ and, at the same time revealing ‘disciplinary habits of mind’ (Fang, 2012a). These findings, representing the hidden curriculum of each subject, were synthesised in a research map that distilled the salient features of successful HSC answers. The research map then became the basis of an intervention, where these new disciplinary understandings were implemented in five case studies. The intervention, described in Chapters 6 and 7, raised issues of opportunity and of challenge in implementing linguistically informed teaching in subject areas. In two new lessons, explicit teaching of literacy skills inspired promising yet unsustainable demonstrations of successful disciplinary literate practices by students. Resistance and disinterest from teachers illuminated some of the challenges of implementing explicit literacy pedagogies in secondary schooling. These challenges were interrogated in Chapter 7, using the LCT (Specialisation) analytical framework. The case studies revealed the importance of

accounting not only for teacher orientations to knowledge, but also, and just as importantly, for their orientations towards knowers.

Based on a synthesis of the findings from this research, this chapter will specify conditions for the effective teaching and learning of disciplinary literacies in Business Studies and Music in ways that support the academic achievement of all students. The first part of the chapter summarises the contributions the study has made towards understanding the disciplinary literacy demands of Business Studies and Music. The second part of the chapter proposes an integrated knowledge/knower model for the teaching and learning of disciplinary literacies. The model has a Janus-like orientation. The first perspective is on the *knowledge* teachers need in order to teach the disciplinary literacies of Business Studies and Music effectively. The second perspective is towards teachers and students as *knowers*, incorporating teacher attitudes and beliefs that provide the best chance for effective literacy pedagogy. Theoretical understandings about literacy are of little value if teachers lack the dispositions to engage with these understandings and then integrate them into their regular pedagogical practice. As a consequence, the findings of this research underscore the critical importance of teacher attitudes and beliefs. Both knowledge and knowers are therefore integrated into the proposed model of the conditions for effective teaching of disciplinary literacies.

8.2 Disciplinary literacies: beyond the dot points

Discourse analysis of successful examination answers has not only exposed configurations of language patterns, and, in the case of Music, images that help to build specialised disciplinary meanings, but it has also exposed disciplinary ways of thinking, reasoning and valuing. These insights extend way beyond the brief, segmented and disconnected dot points of the syllabus.

At the heart of disciplinary discourse in Business Studies can be found the logic of cause and effect relationships. In other words, the field of Business Studies is construed through implication sequences, displaying how business activities generate profits. A typical implication sequence might begin with a business expanding its operations overseas in order to find new markets. This expansion, in turn, results in an increase in profits. Business Studies students are required by the Board of Studies to write up case studies that illustrate this type of cause and effect relationship in a parallel implication sequence. For example, students could refer to a case study of a company such as Fosters Brewing that starts selling beverages outside Australia, which increases sales, and results in an increase in profitability. Parallel implication sequences of this type do more than just show students 'how to write' in the HSC examination. At the same time, they also show students how to think and reason in Business Studies. They act as a framework students can use to understand all business theories (i.e. how different kinds of business structures and activities impact on profits) and as a scaffold students can use to analyse case studies (i.e. how each case study exemplifies business activities aimed at increasing profits). The implication sequence structure, however, is not captured by the Business Studies syllabus dot points, even though such sequences are encoded in the texts created by HSC students who achieve the highest marks. Thus, successful HSC answers are the gateways to the specialised knowledge demands of the subject, and knowledge about language is the key to unlocking this potential.

In Music, similarly, the underlying organisation of the discipline is revealed through analysis of the field construed in successful answers. The dot points of the syllabus present the concepts of music as lists of musical features in no particular order, and at different levels of abstraction. Concepts of music, however, are not random arrangements of features, like the 'word wall' in Natalie's Music classroom. Instead,

concepts of music are used to represent interrelated meanings about the physical properties of sound and the intentional arrangement of sounds by composers and performers. Concepts of music are ordered systems of features that ‘mean’ in relation to each other. It is not the ‘bits’ of knowledge that are important, expressed in specific musical terminology such as ‘jagged contour’. Instead, it is the system represented by a set of related musical terms that is the key to disciplinary meaning. Thus, representing concepts of music as system networks and taxonomies is significant, because each element of a network or taxonomy only has meaning in relation to the other elements. For example, ‘jagged contour’ has meaning in relation to other types of contour (such as ‘smooth contour’) and in relation to the system of melody, which is in turn an aspect of the concept of pitch. This example shows that mastering disciplinary meaning in Music is about more than definitions of terminology. It also involves building an understanding of relationships and systems of musical meaning. Conceptualising musical meaning in this way enables students ‘to abstract from particular language use to generalise about the system instantiated through that use’ (Schleppegrell, 2013, p. 166), an outcome that the atomised and segmented wordings on the ‘word wall’ does not support.

Furthermore, the discourse analysis reported in Chapter 4 shows the specific ways that music is valued by student writers of successful HSC responses. To achieve top marks, students must only refer to principles of composition, such as unity and contrast, in contrast to the personal and affective interpretations made by Michael (as described in Chapter 6) who stated that the music ‘scares the listener as it startles them’. In this way, exploring disciplinary literacies has involved ‘learning intellectual practices and ways of valuing that are fundamental to the nature of disciplines’ (Christie & Maton, 2011a, p. 6).

Musical images – graphic notation, diagrams, tables and charts – have additionally been revealed as valuable semiotic resources. While the syllabus and markers' comments only hint at the use of 'traditional and graphic notation', analysis in Chapter 5 has exposed the importance of musical images. Exploration of intersemiosis, or the relative semantic contribution of images and language in successful answers, has shown how much musical meaning can be actualised in a simple drawing, for example, a pitch contour. The analysis shows that musical images in successful answers tend to refer to multiple features of concepts of music realised in a musical excerpt, and that they also enable a high level of temporal specification. For these reasons, musical images warrant further research attention. There may be other types of notation being used by teachers and students but these were not in the corpus collected for this research. At the very least, some standardisation of names for commonly used musical images, and their elements, would be helpful, in order to develop a metalanguage for describing images and their components. This is a fertile area for further research.

Other disciplinary texts also require research attention, apart from the extended response in Business Studies and the aural examination answer in Music. In Business Studies, for instance, the business report is a multisemiotic text that is little understood and is not explained in the syllabus. In Music, students can select an oral task, a 'viva voce' in the form of a short talk about a musical topic of their choice, integrated with musical excerpts. The requirements for these tasks are even less clear than the written examination answers, as the Standards Packages do not contain any transcripts or audio recordings of a successful 'viva voce'. Also, there is a wide range of literacy activities involved in Years 7 to 10, in Music and in Commerce, the precursor to Business

Studies. Clearly, there is a lot more to learn about literacies in these two disciplines, and this thesis is just the beginning.

8.3 The potential and the pitfalls of explicit teaching of disciplinary literacies

The explicit teaching of disciplinary literacies in secondary school generates both opportunities and challenges, as illustrated in the second stage of the research. The intervention, which taught knowledge about language fused with subject area content, yielded promising results in the classroom. Students, however, engaged with disciplinary literacies more readily than some of the teachers in the study. Theorising the reasons for this lack of engagement from teachers became one of the key theoretical moments in the development of this thesis.

The potential of explicit teaching of disciplinary literacies was clearly evident during the intervention. In each of the classes where the new lessons were taught, students started to create the kinds of writing that are found in successful HSC examination answers. In Business Studies, all students in Ava's and Tim's classes were able to make a point successfully in SPIN FX paragraphs. In these paragraphs, disciplinary features of Business Studies discourse were represented, namely, to link business theory with a case study and to foreground the importance of profitability as a motive for all business activities. Similarly, in Music, every student in Natalie's class learnt to make a point by referring to a specific time in the music (e.g. 'in Section A'), describing a finding (e.g. 'the oboe plays a melody') and linking this finding to a principle of composition (e.g. which creates contrast). In addition, Music students also successfully constructed pitch contours and structure and performing media tables, two musical images that refer to multiple features of concepts of music. These disciplinary ways of making meaning were adopted quite quickly, in one or two lessons. These experiences demonstrate that

students are willing to try new literacy practices when explicitly taught, and they can demonstrate new skills immediately, at the point of intervention.

The assimilation of new literacy skills, however, requires reinforcement and practice over time. The final assessment tasks examined in this research showed only glimpses of the literate practices that were taught in the new lessons and there were no significant, demonstrable gains in literacy skills. The skills of making a point were not reinforced as teachers did not continue to teach them after the intervention.

Consequently, the new ways of ‘meaning’ did not ‘stick’. The literature supports the finding that sustained support is required so that students can gradually acquire and practise new skills. Not only do the rules for writing need to be made explicit, but students need support ‘in engaging in those practices with guidance over time’ (Achugar & Carpenter, 2012, p. 274), so that early gains in skills and knowledge do not dissipate (Heckman, 2005). If students are provided with regular opportunities to practise disciplinary ways of making a point, over time, it is more likely that the skills demonstrated by students in the intervention could be deployed more consistently in examination answers, leading to greater potential for improvement in HSC results.

The intervention, therefore, enabled exploration of some of the promise of literacy pedagogies, as well as the potential obstacles and challenges. The limited time available for teacher collaboration and teaching time in the busy secondary school environment, a well documented challenge in secondary schooling (e.g. Barry, 2002; Wright, 2007), is certainly one factor that constrained the potential of the intervention. Yet despite time constraints, students showed almost instant ‘take up’ of new literacy skills, suggesting that short episodes of explicit teaching, provided regularly, may have a positive impact on writing achievement.

Whereas students were prepared to engage in the intervention lessons, the contrasting lack of interest from teachers was a striking feature of the research. In order to implement the agreed lesson plans, teachers needed to make knowledge about language more visible for students, and even though we planned the lessons together, three teachers clearly felt uncomfortable. Tony and Brian asked me to teach the lessons while Dianne diverged from the lesson plans and taught something different. When Brian's students were talking and misbehaving while I tried to teach them, Brian did not intervene. Tony did not seem to be paying attention while I taught his class. Natalie did teach the lesson plans although her responses to interview questions revealed a reluctance to focus on knowledge that students need to succeed, and greater interest in the kinds of activities that her students enjoy. These somewhat surprising developments are representative of some of the challenges researchers and literacy educators face in trying to promote the explicit teaching of literacy in subject areas. Consequently, one of the goals of this research has been to account for teacher disengagement in explicit teaching of disciplinary literacies, and also to describe the factors that are conducive to effective literacy pedagogy.

The analytical framework I introduced to account for knowledge and knowers has added crucial insights to the study. In the interviews, the teachers expressed a range of attitudes and beliefs about the teaching of their subject, teaching literacy in that subject and about the learning capacities of their students. These beliefs represented a challenge to the objectives of the literacy intervention, that is, to teach literacy skills to all students. The analytical tool of LCT (Specialisation) made it possible to analyse teacher orientations to knowledge and knowers in a way that could account for their attitudes and explain the uneven levels of teacher engagement in the research. Specialisation analysis revealed that the design of the literacy intervention was based on a knowledge

code, an understanding that any student, regardless of talent or disposition, can be taught new skills and understandings. This orientation to knowledge did not align easily with the orientations of the teachers. The orientations to knowledge and knowers of three of the teachers, Tony, Dianne and Natalie, created a code clash with the intervention design, whereas the orientation to knowledge in Ava's class generated a code match with the intervention design and the intervention proceeded according to the plan. Ava participated fully in the new lessons, and she is an exemplar for what is possible when teachers engage with knowledge of disciplinary literacies. While Specialisation can be used to analyse research data, as in this research, it also offers the potential to inform research design before an intervention.

Identifying teacher orientations to knowledge and knowers early in a research project can alert researchers to potential code clashes and code matches. If the coding orientations of teachers are determined before an intervention, strategies for negotiating code clashes and matches can be developed ahead of time. For example, with a knower code teacher who likes group work (such as Natalie), a researcher could 'weather the storm' and more overtly build in group work activities that would engage the teacher in the research, meanwhile carefully and gently directing the teacher's attention to the explicit building of knowledge. If student behaviour in class is unruly, or if teachers clearly have low expectations of students, as occurred in Brian's and Tony's classrooms, these are not conditions for effective research, and the best course would be to 'abandon ship' and seek research opportunities elsewhere, ideally with a 'code match' like Ava. In the case of a clash of knowledge codes, as with Dianne, a strategy of 'changing tack' may involve spending more time in professional development with the teacher rather than moving into the classroom straight away.

These findings also give rise to a reconceptualisation of the knowledge base for teachers, where teacher attitudes and beliefs can be incorporated with teacher knowledge.

8.4 An integrated model of the teacher knowledge and knower base

The teacher knowledge base, or what teachers need to know and do in order to be effective, has been conceptualised as Pedagogical Content Knowledge (PCK) (Darling-Hammond & Bransford, 2005; Shulman, 1986, 1987). A revised version of Literacy Pedagogical Content Knowledge (LPCK) (Love, 2009) is now proposed, that embraces specific and specialised knowledge related to disciplinary literacies in Business Studies and Music and adds the dimension of teacher attitudes and beliefs, so that the model will integrate both ‘knowledge and knowers’ (Maton, 2014).

This research proposes that each aspect of the teacher knowledge base has a corresponding knower base. In other words, teachers have:

- knowledge about content as well as attitudes to and beliefs about content
- knowledge about pedagogy as well as attitudes to and beliefs about pedagogy
- knowledge about learners (i.e. their students) as well as attitudes to and beliefs about learners
- knowledge about literacy as well as attitudes to and beliefs about literacy

These two-way orientations to each area of the knowledge base are shown in Figure 8.1, a representation of the knowledge/knower base for teaching, with effective teaching seen as a merging of all of these elements.

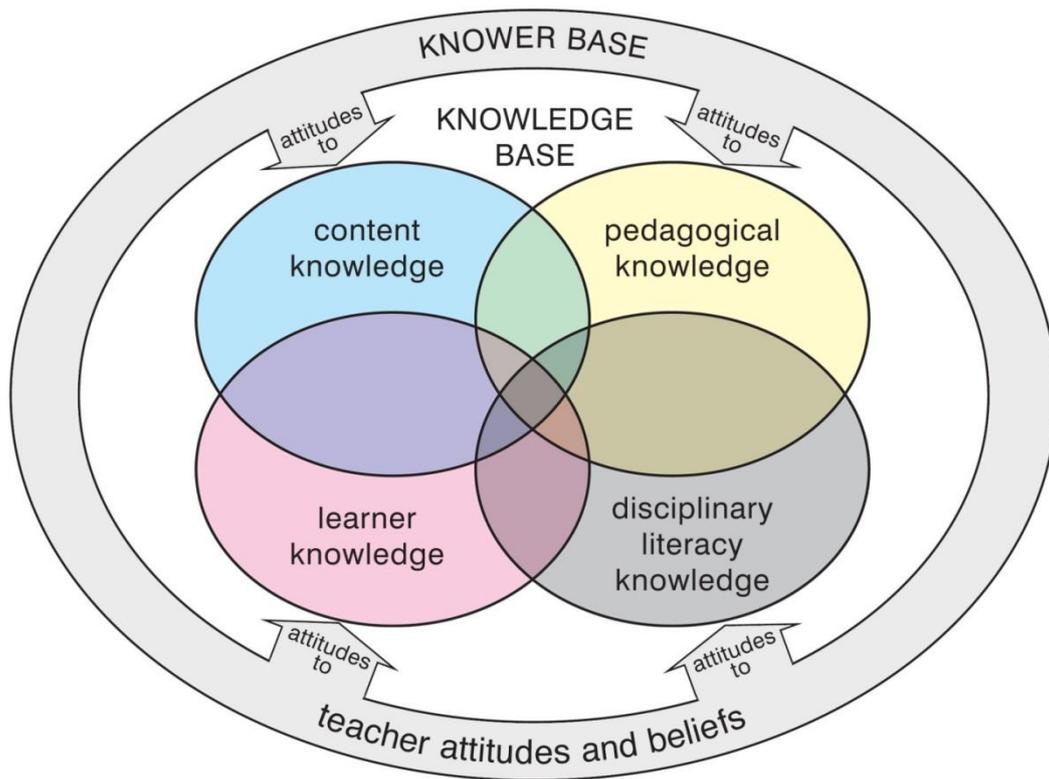


Figure 8.1: Model of the knowledge/knower base for teaching

Each aspects of the knowledge/knower base will be explored below, starting with disciplinary literacy, which is the focus of this research, followed by content, pedagogy and finally learners.

The disciplinary literacy knowledge/knower base

Knowledge of disciplinary literacies that teachers need in order to teach Business Studies and Music for the HSC has been specifically and explicitly described in Chapter 4. Salient characteristics of successful HSC answers in Business Studies and Music include text structure (genre and staging), ways of construing the field and logically connecting ideas (making point and using terminology). In Music, semiotic resources other than language have also been explored, identifying the potential of seven types of musical images.

The knower base for disciplinary literacies concerns the beliefs and attitudes that enable teachers to engage with knowledge of disciplinary literacies and then to teach it. If teachers are going to intervene in their students' writing and teach them the literacies of each discipline, then it will also be important for teachers to build their knowledge about the language used in their discipline and also to recalibrate their beliefs and attitudes about literacy, and about their students. Furthermore, implementing their knowledge about the literacy demands of their subject area will require teachers to develop explicit, effective pedagogies.

Table 8.1 shows the disciplinary literacy knowledge and knower base, which represents the knowledge about literacy that students need as well as the beliefs and attitudes that enable the teaching of disciplinary literacies. Table entries are expressed as statements of ability, representing the knowledge/knower base as ideal characteristics.

Table 8.1: The disciplinary literacy knowledge/knower base

Knowledge base	Knower base
<p>Teachers:</p> <p>understand the linguistic and semiotic features of successful HSC writing including these five aspects:</p> <ol style="list-style-type: none"> 1. genre or social purpose of the writing task: <ul style="list-style-type: none"> • Business Studies - explanation • Music - description 2. staging or organisation of the answer <ul style="list-style-type: none"> • Business Studies – paragraphs and headings • Music- points; headings (names of concepts or musical sections) 3. how to make a point <ul style="list-style-type: none"> • Business Studies – SPIN FX paragraphs • Music- Time^Finding^Principle 4. how to use subject-specific terminology <ul style="list-style-type: none"> • Business Studies – direct reproduction of syllabus points and taxonomies as presented in the syllabus • Music – features of systems of concepts of music and elements from taxonomies 5. how to deploy visual resources <ul style="list-style-type: none"> • Music – know about seven musical images that can be used in examination answers: their names, how they ‘mean’ and how to draw and label them 	<p>Teachers:</p> <p>are prepared to learn about language and literacy and the disciplinary writing requirements of the HSC examination</p> <p>are oriented towards language and literacy as essential to the discipline, not as something ‘extra’</p> <p>consider that their role as teacher includes teaching about the language of their discipline as well as content</p> <p>are willing to spend some of their preparation time on close analysis of exemplar student writing and in creating model texts</p> <p>commit time in the classroom to the explicit teaching of writing by modelling successful writing, and writing with their students</p>

The content knowledge/knower base

Content knowledge involves understanding the facts, topics, concepts and theories of a discipline. As revealed in this thesis, the dot points in the syllabus provide insufficient support for deep and relational understanding of disciplinary knowledge. In Business Studies and Music, this content knowledge has been explained in Chapter 4 of this thesis and it is summarised in Table 8.2 below. As a consequence, teachers may need to rethink their current understandings of the subject, to extend beyond the dot points and to use sources other than the syllabus to help conceptualise content knowledge. These sources might include successful HSC answers in Standards Packages and the findings of studies such as this one.

In terms of the attitudes and beliefs of teachers, a degree of openness to new knowledge is needed to allow a conceptual space for new understandings of subject content. For example, in Music both Dianne and Natalie were reluctant to engage with teaching of concepts of music in a systematic way. Even in the final interview, they expressed reluctance to provide students with a ‘mind map’ of the concepts, despite the fact that aspects of the pitch system networks were used by students successfully during the intervention. Ideal orientations to content knowledge as well as beliefs about the content knowledge are shown in Table 8.2.

Table 8.2: The content knowledge/knower base

Knowledge base	Knower base
<p>Teachers:</p> <p>are aware of the true nature of the subject including the hidden curriculum and underlying structures of the syllabus:</p> <ul style="list-style-type: none"> • Music – features of concepts of music, relations between concepts of music; importance of principles of composition (unity, contrast etc.); correctly naming performing media and specifying time. • Business Studies – cause and effect structure of the syllabus (businesses take action to achieve profits) and foregrounding of profitability as the most important business objective. 	<p>Teachers:</p> <p>understand that official documents may not be sufficient for understanding subject knowledge completely</p> <p>are open to new ideas about subject content and are willing to conceptualise their subject in new ways based on evidence (e.g. exemplar answers in Standards Packages)</p>

The pedagogy knowledge/knower base

In terms of pedagogy for disciplinary literacies, attitudes and beliefs determine the range of teaching strategies deployed and the quality of classroom management. As uncovered in interviews, each teacher had their own preferred way of teaching based on beliefs about ‘what works’. The dominant mode of instruction was a ‘pedagogy of telling’ (Sizer, 1985), where ‘teachers talk but never model writing for their class’ (J. R. Martin, 2013, p. 34). For example, Tony preferred to give students an article to read then engage in class discussion in relation to Business Studies theory. Natalie involved students in group work activities and Ava read through the assessment task notice sheet but did not write with her students. Even when Dianne drilled the students in past HSC examination papers, she talked about the answers and did not write with them. If these preferred pedagogies are not open to scrutiny, and if teachers are not open to other possibilities, then explicit teaching of disciplinary literacies is unlikely.

If the goal is to change pedagogical practices, teachers would be required to not only know about a new way of teaching (e.g. to jointly construct a sample answer on the board) but also to be open to new pedagogical ideas. For example, when negotiating the intervention lessons, the researcher encouraged Natalie to try a new and unfamiliar

teaching strategy, independent construction where students worked alone. Natalie agreed to let the students write by themselves at the end of the lesson if they had successfully engaged in the group work. This example shows that it is possible for teachers to reconceptualise their views of the 'ideal lesson' and to try new pedagogies.

The second aspect of the pedagogical knower base concerns classroom management. Knowledge of effective classroom management strategies as well as attitudes and beliefs about these are critical to effective teaching and learning about disciplinary literacies. Tony and Brian seemed to be unwilling to exert any teacher authority when students were disruptive, and Brian did not intervene when my attempts to gain his students' attention failed. This reluctance to act may be due to Tony's and Brian's knower code orientation to their students and their beliefs that it is not possible to change student behaviour. This kind of teacher attitude to behaviour management is an obstacle to any form of interventionist pedagogy. As a consequence, a willingness on the teacher's part to actively manage student behaviour is another condition for effective teaching and learning of disciplinary literacies. The ideal standards for the pedagogy knowledge/knower base are presented in Table 8.3.

Table 8.3: The pedagogy knowledge/knower base

Knowledge base	Knower base
<p>Teachers:</p> <p>know about and utilise a range of pedagogical strategies for preparing students for written assessment tasks including:</p> <ul style="list-style-type: none"> • explicit instruction about requirements for successful answers • frontloading of this instruction (i.e. before the task not after it has been completed) • teachers and students practising writing together (rather than teachers only talking about how to write) • providing specific and explicit feedback on student writing during writing practice and after assessment. <p>know about and use a range of behaviour management strategies to build positive and productive classroom relationships</p>	<p>Teachers:</p> <p>are open to the possibility of expanding their repertoire of pedagogic practices to incorporate explicit teaching of literacy</p> <p>are prepared to release misconceptions that current pedagogies are effective even if students are not achieving success in assessment tasks</p> <p>consider that their role as teacher includes actively motivating and engaging students in learning tasks</p>

The learner knowledge/knower base

Teacher attitudes and beliefs about student capacity for learning are closely linked to student achievement, as described in Chapter 2. Consequently, it is important for teachers to be prepared to move beyond generalisations or preconceptions and to consider their students as capable of learning. All of the teachers in this study expressed views about their students' limited capacity to learn subject content and produce successful examination answers. Natalie believed that music students are 'not the sharpest tools in the shed' who 'freak out' when they have to write. Dianne, on the other hand, believed that her students should already know their content from early years of schooling and all they need to do is to 'elaborate'. In Business Studies, Tony described his students as 'a mix', 'noisy' and 'immature'. Even Ava, the teacher who engaged wholeheartedly in the new lesson plans, expressed views about the different literate practices of girls and boys. Girls, she believed, tend to plan before they write and therefore create more cohesive answers, whereas boys are more 'gung ho' and less likely to plan their writing. If teachers believe that their students are not capable of learning, this has implications for the potential of a literacy intervention, and more

importantly, for the teachers’ general attitude to new knowledge and change. A fundamental condition of a teacher knower base that would support the explicit teaching of disciplinary literacies is an orientation towards their students as capable knowers or learners, and a belief that every student has the potential to improve. The simple but nonetheless important conditions for the learner knowledge/knower base are outlined in Table 8.4.

Table 8.4: The learner knowledge/knower base

Knowledge base	Knower base
Teachers: develop understanding of student strengths and weaknesses in writing and understanding of content based on evidence	Teachers: believe that all students can improve and achieve

The teacher knowledge/knower base described in Tables 8.1 to 8.4 represents the fundamental knowledge and attitudes that teachers need in order to teach students how to write for the HSC in Business Studies and Music. While these tables do not explain *how* these skills and attitudes can be developed or obtained, they do describe the attributes, dispositions and skills that subject area teachers need in order to support their students in meeting the challenges of disciplinary literacies as demanded by high stakes testing such as the HSC examination. Instead, the teacher knowledge/knower base could be seen as a goal or ‘end point’ for a spiral curriculum of teacher preservice training and inservice teacher professional development.

The model of the teacher knowledge/knower base presented in Figure 8.1 may inform teacher training in several ways. Firstly, it can remind the developers of teacher training programs to consider the beliefs and attitudes of teachers as well as the knowledge they need to learn. The knowledge/knower base can orient the attention of teacher educators to knowers as well as to knowledge, so that teacher attitudes and preconceptions are

given due consideration as starting points for professional development. It is not expected that teachers can be taught to have certain beliefs or attitudes. However, during teaching training courses, perhaps teachers' existing attitudes can be brought to consciousness, discussed, reflected upon and perhaps interrogated in a supportive way. Secondly, teachers can be taught methods of evidence based teaching practice, to measure the effectiveness of teaching strategies (e.g. Hattie, 2012; Parr et al., 2006). By using a pedagogic rubric, perhaps like the one suggested in this research, teachers may be able to track their students' achievement explicitly and empirically.

The pedagogic rubrics, presented in Chapter 6, are examples of the kind of tool that may support teachers and students in learning about disciplinary literacies and developing the kinds of attitudes that support improved student achievement. Pedagogic rubrics for Business Studies (Figure 6.2) and Music (Figure 6.13) synthesise the linguistic and multimodal features of successful HSC answers, making the features of disciplinary literacies accessible to teachers and students. The metalanguage of the pedagogic rubrics is a 'meaning focused metalanguage' that can 'help students participate in grade level tasks and make effective discursive choices' (Schleppegrell, 2013, p. 156).

Further, the rubrics offer teachers 'a set of practical tools for engaging students in systematically analysing the language patterns and discussing the meanings of these patterns in disciplinary texts' (Fang, 2012b, p. 32). Behind each criterion in the rubric is a complex system of semiotic meaning making resources based on SFL. The users of the rubric may not initially perceive the 'workings' behind 'making a point' but they are nonetheless encoded in the criteria. Each criterion of the rubric can be relatively easily explained, as demonstrated in the intervention by how quickly students learnt how to make a point, and, in Music, how to draw a pitch contour successfully. This experience is supported by Bruner's claim that 'any subject can be taught effectively in some

intellectually honest form to any child at any stage of development' (Bruner, 1960/1977, p. 31). The metalanguage of the criteria in the pedagogic rubrics is a 'placeholder' for aspects of linguistic knowledge that could be expanded and elaborated on with greater technicality and specificity at some later time in a spiral curriculum, based on principles of cumulative learning.

The pedagogic rubrics also have the potential to shift teacher attitudes to their students. As the pedagogic rubrics are teacher friendly, they could be used by the teacher to evaluate student writing specifically and explicitly. The rubrics draw attention to the most important features of effective HSC writing and are far more specific than the vague marking criteria provided by the Board of Studies. Consequently, it would be possible for teachers to use the rubrics to explicitly evaluate student skills rather than relying on preconceptions of student capacity or dispositions. Furthermore, the impact of explicit teaching of literacy could also be evaluated using the rubric, thus providing empirical data that could help teachers to assess the impact of their teaching on student achievement. Teacher attitudes to students are more likely to change if they see evidence of new pedagogical practices on student outcomes. As explained by Timperley et al. (2007, p. xxx),

... higher expectations cannot be taught or imposed independently of context. Rather they develop as new teaching approaches are mastered and student learning is seen to improve.

In assisting teachers to 'see' exactly what students are required to know and do, the pedagogic rubrics can provide teachers with a powerful tool for evaluating student achievement and assessing the impact of explicit pedagogies. This, in turn, presents an opportunity to encourage teachers to shift any negative orientations towards student capacity and build higher expectations for student achievement. While the potential of

these pedagogic rubrics has not been exploited fully in this research, it is a promising area for future study.

Literacy educators and teacher educators continue to face challenges as they work to engage teachers with the promise that is the explicit teaching of language and literacy in the subject areas. The proposed knowledge/knower base for teaching is based on the basic premise that knowledge alone is not enough, and that relationships with teachers must be carefully managed so that positive and constructive attitudes to content, pedagogy, learners and disciplinary literacy can be cultivated. This is by no means a small feat. However, it is hoped that the knowledge/knower base can provide a framework for thinking about the complexities of the secondary schooling environment in a systematic way, and thereby assist in the planning of future literacy interventions.

8.5 Final word

Students can learn disciplinary literacies of HSC assessment tasks, as this research suggests, but in order for their writing skills to be sustained, teachers need to engage in their own learning of literacy and language and be willing to adapt. The model of the teacher knowledge/knower base presented in this chapter outlines the conditions for effective teaching and learning about disciplinary literacies. These conditions align with four areas of teacher knowledge as well as teacher attitudes and beliefs about these areas of knowledge.

In situations where collaboration is possible, a more extended period of time for an intervention would be likely to have more of an impact than the short-term, time pressured project reported here. In the case of senior secondary schooling, the time pressure of Year 11 and Year 12 is significant, with teachers reluctant to spare valuable

class time on any new teaching initiatives. This study suggests that collaboration with teachers should involve extensive consultation with teachers away from the classroom, well before any research is attempted with students. Willingness to commit time is another condition of disciplinary literacy pedagogy. When working with a class, it may be helpful for research to involve at least two years of schooling, for example Year 10 and Year 11, instead of the three terms of Year 11 in this research, so that there is more time available for lessons over an extended time period.

In conclusion, this research has broken new ground in the theory of disciplinary literacies, by elucidating the linguistic and semiotic characteristics of successful examination answers in Business Studies and Music. In terms of praxis, five case studies revealed the nature of some of the challenges that face literacy educators as they work to build teacher knowledge about disciplinary literacies, particularly in terms of the complex and multi-faceted teacher knowledge/knower base that is required for effective teaching in subject areas. It is hoped that these theories may inform future research into disciplinary literacy practice and alert researchers to some of the obstacles and challenges that need to be negotiated.

This thesis has demonstrated some of the potential for applying semiotic knowledge of disciplinary literacies so that teachers can assist students to compose answers that will gain them the highest possible marks in the HSC examination. It has also reinforced the importance of the teacher's role in supporting student subject learning and literacy development in a cumulative way.

Beyond the dot points of the syllabus lie relational and connected networks of disciplinary meanings that must be understood in order for students to master subject

knowledge. Even further beyond the dot points are the disciplinary ways of constructing meaning in the HSC examination, which have been described in this thesis. By illuminating both disciplinary meanings and disciplinary meaning making, it is hoped that this thesis may inform teacher professional development and preservice training so that all students of Business Studies and Music can access a high quality education.

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Appendix A

The contents of Appendix A are relevant to discussion in Chapter 4 of the thesis. The system networks and taxonomies of concepts of music, also introduced in Chapter 4, are found in Appendix B.

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A.1 Music Text I: original student text

Exemplar answer HSC 2002 Question 1 (Board of Studies, NSW 2003b)

HSC 2002 - Music 1
Exemplar Sample

Total marks – 30
Attempt Questions 1–4

All instructions, musical excerpts, and pauses for reading and writing are included on the recording.

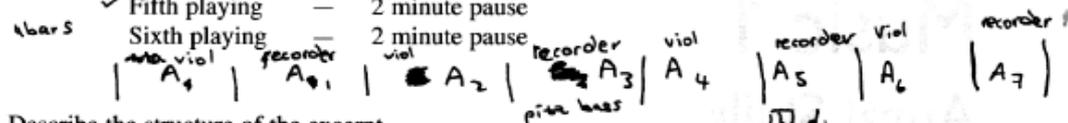
The recording will not be stopped until the end of the examination.

Answer the questions in the spaces provided.

Question 1 (6 marks)

An excerpt (1 minute) from a Renaissance dance, *La Volta*, will be played SIX times for you to answer Question 1.

- Time:
- ✓ First playing – short pause
 - ✓ Second playing – 30 second pause
 - ✓ Third playing – 1 minute pause
 - ✓ Fourth playing – 1 minute pause
 - ✓ Fifth playing – 2 minute pause
 - ✓ Sixth playing – 2 minute pause



Describe the structure of the excerpt.

This piece is a theme and variations. It is performed by a small ensemble consisting of a viol, recorder, lute, and bass stringed instrument. Each section is 4 bars long and the time signature is $\frac{6}{8}$.

Structure A | A₁ | A₂ | A₃ | A₄ | A₅ | A₆ | A₇

Repetition of melody provides unity.
Use of same instruments throughout provides unity.
Section A – 4 bars long.

Melody Viol performs melody whilst bass notes are provided by bass stringed instrument.

Phrased in bars of 2

lute provides harmonic support with chords.

Question 1 continues on page 3

Question 1 (continued)

A₁

Recorder performs melody. Melody remains the same.

Pure tone colour of recorder contrasts with stringed tone colour of supporting lute.

A₂

Viol performs melody. Melody line is more ornamented, particularly in the second bar of each phrase.

A₃

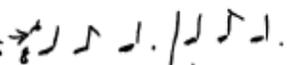
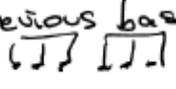
Melody uses further decorative patterns such as mordents, ornaments and short trills.

Bass is provided by pizzicato strings. This provides contrast with previous bass arco bowing.

A₄

Viol performs melody. It is supported by lute.

A₅

Bass $\frac{7}{8}$ 
using pizzicato strings.
This contrasts with previous bass figure of 

End of Question 1

A₆

Viol performs melody.

A₇

Recorder plays melody. less ornamentation

A.2 Music Text 2: original student text

Exemplar answer HSC 2002 Question 3 (Board of Studies, NSW 2003b)

HSC 2002 - Music 1
Exemplar Sample

Question 3 (8 marks)

Music from *Seven Little Australians* (1 minute 58 seconds) by Bruce Smeaton will be played FIVE times for you to answer Question 3.

Time:	First playing	–	short pause
	Second playing	–	30 second pause
	Third playing	–	1 minute pause
	Fourth playing	–	2 minute pause
	Fifth playing	–	2 minute pause

How is contrast created in this piece?

Pitch material – begins with *drum* melody in a ~~narrow~~ narrow pitch range, low register. The string part takes over and has a wider range, taking the melody on a gradually ascending path. This rise in pitch adds to the climax of the piece, a contrast from the restricted *drum* melody. Also, towards the climax the amount of harmonic material increases & more rich, complex harmonies ^{are} present.

Tone Colour – begins with solo *drum* and rich, swelling strings. This changes when melody is repeated and strings take the lead. A more rich & varied tone colour.

Then *drum* takes over again with its thin nasal sound with new melodic material. Then it again snaps to strings (rich and full sound) which take the piece to its climax. Brass and cymbals + rest of orchestra is added

contrast from solo *drum*. → but blends with strings for a warm, mellow effect.

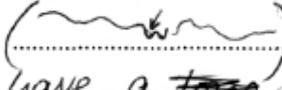
Structure – Smeaton begins quietly with *drum* in a simple, restricted melody. He allows the strings to take this and augment it to take the melody upwards and to a climax. From here there is less formal structure than at the beginning, with flowing melodies and no clear-cut divisions.

Question 3 continues on page 11

Question 3 (continued)

Dynamics/Ex. Techniques — mostly dynamics are quite soft in opening, but then swell hugely as all instruments play more loudly. Then volume dies back down to moderate for a while, then to very loud with whole orchestra for ending. This is directly contrasting to softness at beginning.

Texture — Beginning: contrast between this *oboe* melody with accompaniment ^(homophonic) and ending: multi-layered climax with many harmonic layers (polyphonic). Texture gradually swells with addition of instruments and depth of harmony to end up very contrasting to the beginning.

Duration — Melody is made up mostly of long durations, but occasionally there is a quicker, scale-like bit (). In strings climax, *oboe* and clarinets have a ~~long~~ series of sustained notes which contrast to the ^{slightly} faster melody over the top. Also, percussion has shorter notes like cymbal crashes, which contrast in length to the melody. At beginning, *oboe*, *oboe* and strings.

End of Question 3

A.3 Genre and staging of Business Studies Text I

Question 29 HSC 2002 : Outline the reasons why businesses expand globally, and critically analyse the political, social/cultural and management issues that arise with a global workforce.

Answer part 1: Factorial Explanation (Outline the reasons why businesses expand globally)

Staging: Phenomenon^Factors

Stages	Text
Phenomenon - part 1	Transnational Corporations (TNC's) are becoming increasingly found all over the world. TNC's such as HSBC and Fosters Group Limited are expanding globally in order to achieve company goals and ultimately maximise profits.
Phenomenon - part 2	These TNCs are significantly influenced by political, social/cultural management issues that arise with a global workforce.
Factors	Reasons for Global Expansion
1. saturated local market	<ul style="list-style-type: none"> Businesses are increasingly being confined to a saturated market that limits potential growth and the maximisation of profit. Thus business will expand in an attempt to increase the sales and to find new markets. For example the TWC, Fosters Group Limited, was situated in the saturated Australian market where it occupied over 40% of the market share and over 90% in Victoria. In order for this business to substantially grow it needed to move beyond the national boundaries and trade in the international market place to maximise sales.
2. desire to achieve economies of scale	<ul style="list-style-type: none"> Global businesses also expand because of the desire to achieve economies of scale. By increasing production the business is able to reduce costs and thus increase profit which is the ultimate goal. Through economies of scale the cost of producing products is reduced which therefore enables the company to maximise revenue.
3. desire to acquire access to technology	<ul style="list-style-type: none"> Businesses expand globally to acquire access to technology, such as HSBC. HSBC through expanding internationally was able to acquire the use of internet and therefore become the first international online banking service. Technology makes the transferring of funds and information quicker and easier and therefore reduces costs and increasing profits.
4. to minimise tax	<ul style="list-style-type: none"> Some businesses expand globally to avoid tax and to achieve tax minimisation. This is achieved in countries such as the Cook Islands where a tax haven exists which means that there is no tax placed on either domestic companies or global companies. There may also exist a tax shelter or privilege but the main reason why businesses expand globally is to reduce the taxes that they pay in their domestic country.
5. diversification	<ul style="list-style-type: none"> Diversification is another reason why businesses expand globally. Fosters for example has diversified into property through the Wentworth Group and as such has changed its name from Fosters Brewers Limited to Fosters Group Limited. HSBC has also diversified through the Merrill Lynch HSBC alliance and now trades through the internet.
6. cushioning economic cycles	<ul style="list-style-type: none"> Cushioning economic cycles is also a reason to expand globally as this way the global business can rely on the stability of many countries' economic cycles rather than just one.

Answer part 2: Consequential Explanation (Critically analyse the political, social/cultural and management issues that arise with a global workforce)

Staging: Phenomenon^Consequences^Reinforcement of consequences

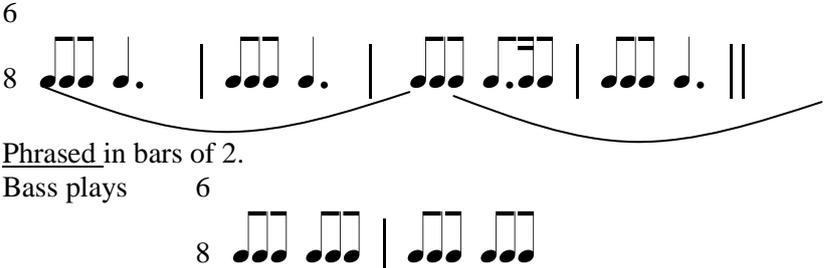
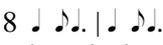
Stages	Text
Phenomenon	As businesses expand globally they encounter many political, socio/cultural and management issues that need to be addressed in order to operate effectively and profitably. These issues are predominantly evident in relation to the global workforce that exists when businesses expand globally and the function of employment relations.
<p>Consequences</p> <p>1. Political</p> <p>a. problems with standards of labour</p> <p>b. labour law variations (wages and conditions)</p> <p>c. protection of workers</p> <p>2. Social cultural</p> <p>a. cultural diversity</p>	<p>There are significant political issues that arise when businesses expand globally in relation to the global workforce. The host country may have different standards of labour that exist to protect their workers. For example, when HSBC expanded into Baku the government established minimum standards of labour that had to be abided by. This lead HSBC to develop contracts between its employees to minimise the conflict that may arise due to the political tensions between the government, employees and HSBC. Minimum standards of labour are established to ensure that the employees are not exploited and are provided with adequate safety and monetary measures. This did not occur with the TWC giant, Nike, who was found to be exploiting workers in the famous ‘sweat shop’ factories where the employees were paid well below the minimum wage and not provided with adequate safety procedures or equipment.</p> <p>Labour law variations is a political issue that needs to be addressed when expanding globally. Wages and working conditions are predominantly the issues that need to be considered. Wages are often determined by the government or set out in contracts or agreements between the employees and the employer. However in most developing countries contracts or agreements do not exist so therefore labour exploitation frequently occurs as global businesses push to maximise profits. Labour law variations such as those of Occupational Health & Safety (OH&S), EEO and Anti Discrimination laws do not exist so many factories or production facilities provide inadequate safety measures. These political issues vary between countries but will arise when a business adopts a global workforce.</p> <p>World trade organisations are often involved in ensuring the protection of the workers of the host countries. Trade organisations such as the WTO present political issues regarding the global workforce. This organisation is often the promoter of ensuring the protection of the employees through the establishment of common labour standards between member countries. This is evident in relation to the Fosters Group Limited where when China joined the WTO, strict labour laws were implemented influencing the operations of this country.</p> <p>Social/cultural issues also arise with a global workforce. Cultural diversity is a common barrier to the achievement of an harmonious and productive workforce. Global businesses have to consider the differences in the culture of the employees of that of their host country and also with that of the domestic country which may be employed in the international operation.</p> <p>Conflicting religions, languages and tastes are all issues that arise with a</p>

	<p>global workforce and if a business is to have successful workers they need to carefully manage and understand the differences in culture. The cultural diversity evident in the global workforce also have varying ethics and morals that may impact upon the business and these need to be understood to achieve effective employment relations.</p>
<p>3. Management issues a. staffing system</p> <p>b. organisation structure</p> <p>c. shortage of skilled labour</p>	<p>There are also significant management issues that arise with the need for a global workforce. The TNC needs to adopt a staffing system that suits the need of the business and will provide maximum profitability. The choice of an ethnocentric (parent company staffing), polycentric (host country staffing) or geocentric (best person for the job) staffing system is an important issue that needs to be considered. The use of an ethnocentric staffing system enables goals and objectives for the business to be achieved whilst the ethnocentric approach has the advantage of the managers having an understanding of the local market and they would provide valuable market insight. Fosters Group Limited uses a combination of polycentric and geocentric staffing to ensure that the local markets are understood whilst also the best person for the job is chosen.</p> <p>Global businesses also need to adopt the correct organisational structure that is suitable for the business. This may be in the form of a geographical division or customer based but must be applicable to the business.</p> <p>The shortage of skilled labour is another management issue that needs to be considered and may influence the choice of the staffing system. In developing countries especially, skilled labour is often nonexistent so the global business should be aware that it may be required to use staff from its domestic country.</p>
<p>Reinforcement of consequences</p>	<p>It is apparent that businesses expand globally for many reasons but it is this global expansion that presents political, social/cultural and management issues in relation to the global workforce.</p>

A.4 Genre and staging of Music Text I

Question 2002 HSC Question 1: Describe the structure of this excerpt.

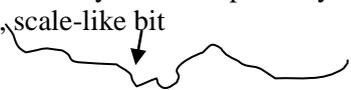
Musical description: (General statement)^Description of music

Stages	Text
General statement	<p>This piece is a <u>theme and variations</u>. It is performed by a <u>small ensemble</u> consisting of a viol, recorder, lute, and bass stringed instrument. Each section is 4 bars long and the <u>time signature</u> is</p> <p>6 8.</p> <p>Structure A A1 A2 A3 A4 A5 A6 A7 </p> <p>Repetition of melody provides unity.</p> <p>Use of same instrument through provides unity.</p>
Description Section A	<p><u>Section A</u> - 4 bars long.</p> <p>Viol performs melody whilst bass notes are provided by bass stringed instrument.</p> <p>6 8</p>  <p><u>Phrased</u> in bars of 2.</p> <p>Bass plays 6 8</p> <p>with some extra <u>passing notes</u>.</p> <p>Lute provides <u>harmonic support</u> with chords.</p>
Section A1	<p><u>A1</u></p> <p>Recorder performs <u>melody</u>. Melody remains the same.</p> <p><u>Pure tone colour</u> of recorder contrasts with stringed tone colour of supporting lute</p>
Section A2	<p><u>A2</u></p> <p>Viol performs melody. Melody line is more ornamented, particularly in the second bar of each phrase.</p>
Section A3	<p><u>A3</u></p> <p>Melody uses further decorative patterns such as mordents, ornaments and short trills.</p> <p>Bass is provided by pizzicato strings. This provides contrast with previous bass arco bowing.</p>
Section A4	<p><u>A4</u></p> <p>Viol performs melody. It is supported by lute.</p>
Section A5	<p><u>A5</u></p> <p>Bass</p> <p>6 8</p>  <p>using pizzicato strings.</p> <p>This contrasts with the previous bass figure of </p>
Section A6	<p><u>A6</u></p> <p>Viol performs melody</p>
Section A7	<p><u>A7</u></p> <p>Recorder plays melody. Less ornamentation.</p>

A.4 Genre and staging of Music Text 2

Question 2002 HSC Question 3: How is contrast created in this piece?

Musical description: (General statement)^Description of music

Stages	Text
General statement	(-)
Description Pitch	<p>Pitch material – begins with oboe melody in a narrow pitch range, low register. The string part takes over and has a wider range, taking the melody on a gradually ascending path.</p> <p>This rise in pitch adds to the climax of the piece, a contrast from the restricted oboe melody. Also, towards the climax the amount of harmonic material increases & more rich, complex harmonies are present.</p>
Tone colour	<p>Tone Colour – begins with solo oboe and rich, swelling string.</p> <p>This changes when melody is repeated and strings take the lead. A more rich & varied tone colour. Then oboe takes over again with its thin nasal sound with new melodic material.</p> <p>Then it again swaps to strings (rich and full sound) which take the piece to its climax. Brass and cymbals & rest of orchestra is added but (contrast from solo oboe) blends with strings for a warm, mellow effect.</p>
Structure	<p>Structure – Smeaton begins quietly with oboe in a simple, restricted melody. He allows the strings to take this and augment it to take the melody upwards and to a climax. From here there is less formal structure than at the beginning, with flowing melodies and no clear-cut divisions.</p>
Dynamics/ Expressive Techniques	<p>Dynamics/Ex. Techniques – mostly dynamics are quite soft in opening, but then swell hugely as all instruments play more loudly. Then volume dies back down to moderate for a while, then to very loud with whole orchestra for ending. This is directly contrasting to softness at beginning.</p>
Texture	<p>Texture- Beginning: contrast between thin oboe melody with accompaniment (homophonic) and ending: multi layered climax with many harmonic layers (polyphonic). Texture gradually swells with addition of instruments and depth of harmony to end up very contrasting to the beginning.</p>
Duration	<p>Duration – Melody is made up mostly of long durations, but occasionally there is quicker, scale-like bit</p>  <p>In strings climax, oboe and clarinets have a series of sustained notes which contrast to the slightly faster melody over the top. Also, percussion has shorter notes like cymbal crashes, which contrast in length to the melody.</p> <p>At beginning, solo oboe and strings.</p>

A.6 Clause complexes and taxis in Business Studies Text I

20 clause complexes; 44 ranking clauses

simplex	1	Transnational Corporations (TNC's) are becoming increasingly found all over the world.
α	2i	TNC's such as HSBC and Fosters Group Limited are expanding globally
$x \beta$ causal purpose	2ii	in order to achieve company goals
$x \gamma$ causal purpose	2iii	and ultimately maximise profits.
simplex	3	These TNCs are significantly influenced by political, social/cultural management issues [[that arise with a global workforce]].

Reasons for Global Expansion

simplex	4	Businesses are increasingly being confined to a saturated market [[that limits potential growth and the maximisation of profit.]]
simplex	5	Thus business will expand in an attempt [[to increase the sales] and to find new markets.]]
α	6i	For example the TWC, Fosters Group Limited, was situated in the saturated Australian market
$x \beta$	6ii	where it occupied over 40% of the market share and over 90% in Victoria.
$x \beta$	7i	In order for this business to substantially grow
1α	7ii	it needed to move beyond the national boundaries
$+2\alpha$	7iii	and trade in the international market place
$x \beta$	7iv	to maximise sales.
α	8i	Global businesses also expand
$x \beta$	8ii	because of the desire to achieve economies of scale.
$x \beta$	9i	By increasing production
α	9ii	the business is able to reduce costs
$x \gamma$	9iii	and thus increase profit
$= \delta$	9iii	which is the ultimate goal.
α	10i	Through economies of scale, the cost of producing products is reduced
$= \beta$	10ii	which therefore enables the company
$x \gamma$	10iii	to maximise revenue.
α	11i	Businesses expand globally
$x \beta$	11ii	to acquire access to technology, such as HSBC.
α	12i	HSBC << >> was able to acquire the use of internet
$x \beta$	12ii	<<through expanding internationally>>
$x \gamma$	12iii	and therefore become the first international online banking service.
α	13i	Technology makes the transferring of funds and information quicker and easier
$x \beta$	13ii	and therefore reduces costs
$x \gamma$	13iii	and increasing (sic) profits.
α	14i	Some businesses expand globally
$x \beta$	14ii	to avoid tax
$x \gamma$	14iii	and to achieve tax minimisation.
α	15i	This is achieved in countries such as the Cook Islands [[where a tax haven exists]]
$= \beta$	15ii	which means [[that there is no tax [[placed on either domestic companies or global companies.]]]]
1	16i	There may also exist a tax shelter or privilege
$+2$	16ii	but the main reason [[why businesses expand globally]] is [[to reduce the taxes [[that they pay in their domestic country]]]].
simplex	17	Diversification is another reason [[why businesses expand globally]].
1	18i	Fosters for example has diversified into property through the Wentworth Group
$+2$	18ii	and as such has changed its name from Fosters Brewers Limited to Fosters Group Limited.
α	19i	HSBC has also diversified through the Merrill Lynch HSBC alliance
$x \beta$	19ii	and now trades through the internet.
1	20i	Cushioning economic cycles is also a reason [[to expand globally]]
$= 2$	20ii	as this way the global business can rely on the stability of many countries' economic cycles rather than just one

A.7 Clause complexes and taxis in Music Text I

simplex I		This piece is a <u>theme and variations</u> .
α	2i	It is performed by a <u>small ensemble</u>
=β exposition	2ii	consisting of a viol, recorder, lute, and bass stringed instrument.
I	3i	Each section is 4 bars long
+2	3ii	and the <u>time signature</u> is 6/8.

Structure A | A1 | A2 | A3 | A4 | A5 | A6 | A7 |

simplex	4	Repetition of melody provides unity.
simplex	5	Use of same instrument throughout provides unity.

Section A - 4 bars long.

α	6i	Viol performs melody
xβ temporal	6ii	whilst bass notes are provided by bass stringed instrument.

6



simplex	7	<u>Phrased</u> in bars of 2.
α	8i	Bass plays
'β	8ii	6 with some extra <u>passing notes</u> .



simplex	9	Lute provides <u>harmonic support</u> with chords.
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Clauses 10-19 simplex

A1

10	Recorder performs <u>melody</u> .
11	Melody remains the same.
12	<u>Pure tone colour</u> of recorder contrasts with stringed tone colour of supporting lute.

A2

13	Viol performs melody.
14	Melody line is more ornamented, particularly in the second bar of each phrase.

A3

15	Melody uses further decorative patterns such as mordents, ornaments and short trills.
16	Bass is provided by pizzicato strings.
17	This provides contrast with previous bass arco bowing.

A4

18	Viol performs melody.
19	It is supported by lute.

A5

α	20i	Bass 6
	8	

xβ.manner	20ii	using pizzicato strings.
-----------	------	--------------------------

21	This contrasts with previous bass figure of 
----	--

A6

simplex	22	Viol performs melody
---------	----	----------------------

A7

simplex	23	Recorder plays melody.
simplex	24	Less ornamentation.

A.8 Clause complexes and taxis in Music Text 2

simplex	I	Pitch material - begins with oboe melody in a narrow pitch range, low register.
I	2i	The string part takes over
+2 α	2ii	and (it) has a wider range,
+ β	2iii	taking the melody on a gradually ascending path.
simplex	3	This rise in pitch adds to the climax of the piece, a contrast from the restricted oboe melody.
I	4i	Also, towards the climax the amount of harmonic material increases
=2 elab.exp	4ii	& more rich, complex harmonies are present.
Tone Colour –		
simplex	5	(The piece) begins with solo oboe and rich, swelling string.
1 α	6i	This changes
x β	6ii	when melody is repeated
+2	6iii	and strings take the lead.
simplex	7	(There is) A more rich & varied tone colour.
simplex	8	Then oboe takes over again with its thin nasal sound with new melodic material.
α	9i	Then it (melody) again swaps to strings
= β elab.exp	9ii	(which have a) (rich and full sound)
= γ elab.exp	9iii	which take the piece to its climax.
I	10i	Brass and cymbals & rest of orchestra is (sic) added
+2	10ii	but (they) blends with strings for a warm, mellow effect.
simplex	11	(There is) Contrast from solo oboe.
Structure –		
simplex	12	Smeaton begins quietly with oboe in a simple, restricted melody.
I	13i	He allows the strings to take this
x2 α	13ii	and (they) augment it
x β	13iii	to take the melody upwards and to a climax.
simplex	14	From here there is less formal structure than at the beginning, with flowing melodies and no clear -cut divisions.
Dynamics/Ex. Techniques –		
I	15i	mostly dynamics are quite soft in opening,
x2 α	15ii	but then (they) swell hugely
x β	15iii	as all instruments play more loudly.
I	16i	Then volume dies back down to moderate for a while,
x2	16ii	then (it increases) to very loud with whole orchestra for ending.
simplex	17	This is directly contrasting to softness at beginning.
Texture		
simplex	18	(At the) Beginning: (there is) contrast between thin oboe melody with accompaniment (homophonic) and ending: multi layered climax with many harmonic layers (polyphonic).
α	19i	Texture gradually swells with addition of instruments and depth of harmony
x β enh.cause.purp	19ii	to end up very contrasting to the beginning.
Duration –		
I	20i	Melody is made up mostly of long durations,
+2	20ii	but occasionally there is quicker, scale-like bit
α	21i	In strings climax, oboe and clarinets have a series of sustained notes
= β	21ii	which contrast to the slightly faster melody over the top.
α	22i	Also, percussion has shorter notes like cymbal crashes,
= β	22ii	which contrast in length to the melody.
simplex	23	At beginning, (there is) solo oboe and strings.

A.9 Transitivity: size and amount processes in Business Studies Text I

This table is the full version of material found in Table 4.4 and Table 4.5 in Chapter 4 (after Halliday & Matthiesen, 2004, p187). Processes in each clause are indicated in bold.

● means reduce to small size or amount ● means expand to large size or amount

Clause		Size	Amount
1	Transnational Corporations (TNC's) are becoming increasingly found all over the world.		
2i	TNC's such as HSBC and Fosters Group Limited are expanding globally	●	
2ii	in order to achieve company goals		
2iii	and ultimately maximise profits.		●
3	These TNCs are significantly influenced by political, social/cultural management issues [[that arise with a global workforce]].		
-	Reasons for Global Expansion		
4	Businesses are increasingly being confined to a saturated market [[that limits potential growth and the maximisation of profit.]]	●	
5	Thus business will expand in an attempt [[to increase the sales and to find new markets.]]	●	●
6i	For example the TWC, Fosters Group Limited, was situated in the saturated Australian market		
6ii	where it occupied over 40% of the market share and over 90% in Victoria		
7i	In order for this business to substantially grow	●	
7ii	it needed to move beyond the national boundaries		
7iii	and trade in the international market place		
7iv	to maximise sales.		●
8i	Global businesses also expand	●	
8ii	because of the desire to achieve economies of scale.		
9i	By increasing production		●
9ii	the business is able to reduce costs		●
9iii	and thus increase profit		●
9iv	which is the ultimate goal.		
10i	Through economies of scale, the cost of producing products is reduced		●
10ii	which therefore enables the company		
10iii	to maximise revenue.		●
11i	Businesses expand globally	●	
11ii	to acquire access to technology, such as HSBC		
12i	HSBC << >> was able to acquire the use of internet		
12ii	<<through expanding internationally>>	●	
12iii	and therefore become the first international online banking service.		
13i	Technology makes the transferring of funds and information quicker and easier		
13ii	and therefore reduces costs		●
13iii	and increasing profits (sic).		●
14i	Some businesses expand globally	●	
14ii	to avoid tax		
14iii	and to achieve tax minimisation.		
15i	This is achieved in countries such as the Cook Islands [[where a tax haven exists]]		
15ii	which means [[that there is no tax [[placed on either domestic companies or global companies.]]]]		
16i	There may also exist a tax shelter or privilege		
16ii	but the main reason [[why businesses expand globally]] is [[to reduce the taxes[[that they pay in their domestic country]]]].	●	●
17	Diversification is another reason [[why businesses expand globally]].	●	
18i	Fosters for example has diversified into property through the Wentworth Group	●	
18ii	and as such has changed its name from Fosters Brewers Limited to Fosters Group Limited.		
19i	HSBC has also diversified through the Merrill Lynch HSBC alliance (sic)	●	
19ii	and now trades through the internet.		
20i	Cushioning economic cycles is also a reason [[to expand globally]]	●	
20ii	as this way the global business can rely on the stability of many countries' economic cycles rather than just one.		

A.10 Nuclear relations in Business Studies Text I

This table is the full version of material found in Table 4.7 in Chapter 4. Analysis is based on Martin & Rose 2007, p.106-109. Grammatical metaphor has been ‘unpacked’ in order to analyse nuclear structure of clauses. Medium is indicated by a shaded box.

Clause	nuclear	central	nuclear	peripheral	phases
1	Transnational corporations	are becoming found		all over the world	
2i	TNC's such as HSBC and Fosters Group Limited	are expanding		globally	
2ii	'	achieve	company goals		
2iii	'	maximise	profits		
3	Political, social/cultural management issues	influence	these TNCs		
4	Businesses	are confined		to a saturated market	reason 1
	the saturated market	limits	growth		
		limits	profits		
5	Businesses	will expand		in an attempt [[to increase sales and find new markets]]	
6i	The TNC, Fosters group limited	was situated in	the saturated Australian market		
6ii	it	occupied	40% of the market share and over 90% in Victoria		
7i	this business	(wanted to grow)			
7ii	it	needed to move		beyond national boundaries	
7iii	it	needed to trade		in the international market place	
7iv	it	needed to maximise	sales		
8i	Global businesses	expand			2
8ii	'	desire	economies of scale		
9i	'	increase	production costs		
9ii	the business	is able to reduce	profit		
9iii	(it)	is able to increase			
9iv	(profit)	is	the ultimate goal		
10i	(Companies)	(achieve)	economies of scale		
	cost of producing products	(reduces)			
10ii / 10iii	the company	can maximise	revenue		
11i	Businesses	expand		globally	3
11ii	(they)	can access	technology		
12i	HSBC	was able to acquire	the use of the internet		
12ii	it	increased	production		
12iii	it	was able to become	the first international		

13i	Technology	makes	internet banking service the transferring of funds and information quicker and easier		
	Businesses	can use transfer	technology funds and information		
13ii	transferral	is	quicker and easier		
	costs	reduces	costs		
13iii	this (profits)	reduce			
14i	Some businesses	increase are	profits higher		
14ii	'	expand		globally	3
14iii	'	can avoid	tax		
15i	Tax minimisation	can minimise is achieved	tax		
				in countries such as the Cook Islands [[where a tax haven exists]]	
	a business	operates		in a tax haven such as the Cook islands	
15ii	business There	can avoid is	tax no tax	on domestic companies or global companies	
16i	a tax shelter or privilege	exists			
16ii	Businesses	expand		globally	
	'	want to reduce	taxes	in their domestic country	
17	'	expand		globally	5
	'	want to diversify			
18i	Fosters	diversified		into property	
18ii	it	changed	its name	from Fosters Brewers Limited to Fosters Group Limited	
19i	HSBC	has diversified		through the Merrill Lynch alliance	
19ii	it	trades		through the internet	
20i	(Businesses)	(want to cushion)	(economic cycles)		
20ii	(they) the combined cycles of more than one country (many countries' cycles)	expand are	stable	globally	6
	Businesses	can rely on	many countries' cycles		

A.11 Conjunctive relations in Business Studies Text I

This analysis is based on Martin & Rose 2007, p. 144 and p.145-153.

Key	conjunction type	abbreviation
	addition	additive
	comparison	similar
	time	successive
		simultaneous
	consequence	means
		cause
		condition
		purpose
		add
		sim
		succ
		simul
		means
		cause
		cond
		purp

Internal conjunctions	External conjunctions	Text
		1 Transnational Corporations (TNC's) are becoming increasingly found all over the world.
		2i TNC's such as HSBC and Fosters Group Limited are expanding globally
	purp	2ii in order to achieve company goals
	add	2iii and ultimately
	purp	to maximise profits.
		3 These TNCs are significantly influenced by political, social /cultural management issues [[that arise with a global workforce]]. Businesses expand globally because ...
	cause	because
		4 a. If businesses are confined to a saturated market
	cond	b. then this market limits growth
	add	c. and therefore it limits profits.
	cause	5 a. Businesses will expand
	cause	b. because they want to increase sales and find new markets
	sim	6i For example the TNC, Fosters Group Limited, was situated in the saturated Australian market
		6ii where it occupied over 40% of the market share and over 90% in Victoria
	purp	7i In order for this business to substantially grow
	add	7ii it needed to move beyond the national boundaries
	purp	7iii and trade in the international market place
	add	7iv to maximise sales.
	add	8i Global businesses also expand
	cause	8ii because of the desire to achieve economies of scale.
	means	9i By increasing production
		9ii the business is able to reduce costs
	add	9iii and thus increase profit which is the ultimate goal.
	purp	iv
	means	10i a. by achieving economies of scale
		ii b. companies can reduce costs
	purp	10iii so they can maximise revenue
	purp	11i Businesses expand globally
	sim	11ii to acquire access to technology, such as HSBC
		such as

continued over

			12i	HSBC << >> was able to acquire the use of internet
	means	through	12ii	<<through expanding internationally>>
	add	and	12iii	and therefore become the first international online banking service.
	cause	therefore		
			13i	a. Businesses can use technology
	purp	so		b. so they can transfer funds and information more quickly and easily
	add	and	13ii	and therefore reduces costs
	cause	therefore		
	and	and	13iii	and therefore increasing (sic) profits.
	cause	therefore		
			14i	Some businesses expand globally
	purp	to	14ii	to avoid tax
	add	and	14iii	and to achieve tax minimisation.
	purp	to		
	cond	if	15i	a. If businesses operate in countries like the Cook Islands, there is a tax haven
			ii	b. then there is no tax on domestic or domestic companies.
		then		
	add	also	16i	There may also exist a tax shelter or privilege
	cause	but	16ii	a. But businesses expand
	cause	because		b. because they want to reduce taxes in their domestic country.
			17	a. Businesses also expand
	cause	also		b. because they want to diversify.
	sim	because	18i	Fosters for example has diversified into property through the Wentworth Group
		for example	18ii	and as such has changed its name from Fosters Brewers Limited to Fosters Group Limited.
	add	and	19i	For example HSBC has also diversified through the Merrill Lynch HSBC alliance
	sim	for example	19ii	and therefore now trades through the internet.
	add	also		
	add	and	20i	a. Businesses also expand
	cause	therefore		b. because they want to cushion economic cycles.
	add	also	20ii	a. Businesses want to rely on many countries' economic cycles
	cause	because		b. because many countries' economic cycles are more stable than one.
	cause	because		

A.12 Implication sequences: variations in making a point in Business Studies

There are two variations found of the implication sequences in successful Business Studies texts:

1. implication sequences with no case studies
2. implication sequences with no elaboration or enhancement move.

Variation 1: no case study

Paragraph 3 from Business Studies Text 1 (clauses 8-10) is an example of an implication sequence with no case study to exemplify theory about economies of scale.

Global businesses also expand because of the desire to achieve economies of scale. By increasing production the business is able to reduce costs and thus increase profit which is the ultimate goal. Through economies of scale the cost of producing products is reduced which therefore enables the company to maximise revenue.

Instead the student repeats the elaboration and enhancement move.

Table AI: Variations in parallel implication sequence – no case study

Generic implication sequence	Business Studies Text 1 Paragraph 3	Expansion moves	Functional stages
Business takes some form of action (syllabus point)	Global businesses also expand because of the desire to achieve economies of scale.	-	Syllabus point
	By increasing production	Elaboration	Elaborate
so it can reduce costs and increase profits	the business is able to reduce costs and thus increase profit which is the ultimate goal	Enhancement	Effect on the business
(restatement) Business takes some form of action (syllabus point)	Through economies of scale the cost of producing products is reduced	Elaboration	Elaborate
so it can reduce costs and increase profits	which therefore enables the company to maximise revenue.	Enhancement	Effect on the business

Variation 2: no elaboration or enhancement move

In paragraph 6 of Business Studies Text 1 (clauses 17-19), the student states the syllabus point then jumps directly to the case study to exemplify the point without an enhancement move.

Diversification is another reason why businesses expand globally. Fosters for example has diversified into property through the Wentworth Group and as such has changed its name from Fosters Brewers Limited to Fosters Group Limited. HSBC has also diversified through the Merrill Lynch HSBC alliance and now trades through the internet.

Two case studies are presented, Fosters and HSBC, as examples of diversification. In the enhancement move, there is no explicit reference to profitability. Instead, the ultimate effect for HSBC is trading through the internet, and this links to paragraph 4 (about gaining access to technology which reduces costs and increases profits) and therefore implies a financial benefit to the business. Missing stages are shaded in the table.

Table A2: Variations in parallel implication sequence - missing elaboration and enhancement moves

Generic implication sequence	Business Studies Text 1 Paragraph 6	Expansion moves	Functional stages
Business takes some form of action (syllabus point)	Diversification is another reason why businesses expand globally	-	Syllabus point
so it can reduce costs and increase profits		Elaboration	Elaborate
A case study company takes action	Fosters for example has diversified into property through the Wentworth Group	Exemplification	Case study example of syllabus point
	and as such has changed its name from Fosters Brewers Limited to Fosters Group Limited.	Elaboration	Elaborate
	HSBC has also diversified through the Merrill Lynch HSBC alliance	Exemplification	Case study example of syllabus point
so it can reduce costs and increase profits.	and now trades through the internet	Enhancement	Effect on the business (implied)

Not every paragraph in Business Studies writing has an enhancement move. The second explanation in the exemplar text is a consequential explanation, where the student answers the second part of the question:

... critically analyse the political, social/cultural and management issues that arise with a global workforce.

In this part of the examination answer, there are no enhancement moves related to profitability. Instead, a syllabus point is stated followed by elaboration and exemplification as in paragraph 4 of the explanation in part 2 of the exemplar answer :

World trade organisations are often involved in ensuring the protection of the workers of the host countries. Trade organisations such as the WTO present political issues regarding the global workforce. This organisation is often the promoter of ensuring the protection of the employees through the establishment of common labour standards between member countries. This is evident in relation to the Fosters Group Limited where when China joined the WTO, strict labour laws were implemented influencing the operations of this country.

The expansion stages in this paragraph are shown in Table A3:

Table A3: parallel implication sequence and making a point - no enhancement move

Generic implication sequence	Business Studies Text 1 - part 2, paragraph 4	Expansion moves	Functional stages
Business takes some form of action (syllabus point)	World trade organisations are often involved in ensuring the protection of the workers of the host countries.	-	Syllabus point
	Trade organisations such as the WTO present political issues regarding the global workforce. This organisation is often the promoter of ensuring the protection of the employees through the establishment of common labour standards between member countries.	Elaboration	Elaborate
so it can reduce costs and increase profits		Enhancement	Effect on the business
A case study company takes action	This is evident in relation to the Fosters Group Limited	Exemplification	Case study example of syllabus point
	where when China joined the WTO, strict labour laws were implemented influencing the operations of this country.	Elaboration	Elaborate
so it can reduce costs and increase profits.		Enhancement	Effect on the business

Even though there no enhancement move at the end of this paragraph, the concept of profitability is stated in the macroTheme in the introduction to the second explanation:

As businesses expand globally they encounter many political, socio/cultural and management issues that need to be addressed in order to operate effectively and profitably.

This macroTheme provides a macro-enhancement move that frames the rest of the explanation. All of the political, socio/cultural and management issues covered in the explanation have the purpose of improving profitability. In this way, profitability is still implied even if not stated explicitly.

A.13 Business Studies - Additional analysis of experiential meaning

A.13.1 Taxonomic relations

Of 30 lexical strings in Business Studies Text 1, seven relate to the word ‘business’, with extensive repetition, synonyms (e.g. ‘company’, ‘Transnational Corporation’) and reference to case study companies (‘HSBC’ and ‘Fosters’). A classifying taxonomy of type of businesses is created showing how the case studies are members of the class of global businesses which are in turn a type of business, as shown in Figure A1. Starting with ‘types of businesses’ on the left, which two types shown: domestic and global. There are two members of the class of global businesses shown, HSBC and Fosters Group Limited, each connected to global by an oblique line.

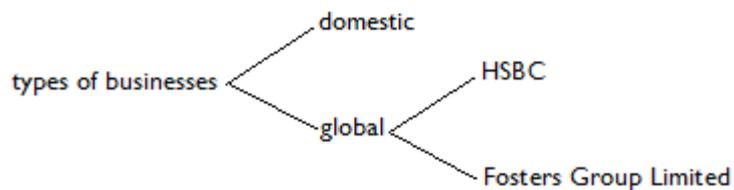


Figure A1: Classifying taxonomy of types of businesses

Lexical strings related to business growth and profitability are prevalent in successful Business Studies answers. Lexical strings involving money and finance create contrasting taxonomies of incoming and outgoing cashflow. Money that comes in (revenue, sales, profits) is contrasted with money flowing out of the business (tax, costs), as shown in Figure A2.

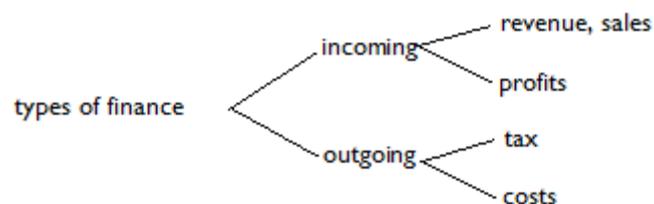


Figure A2: Classifying taxonomy of finance

There are also lexical strings for ‘growth’ and ‘expansion’, the latter being one of the longest in the text, with nine items. These processes types are explained further in Chapter 4.

A.13.2 Technicality, abstraction and grammatical metaphor

Successful writers in Business Studies construe the field through many abstract and technical terms. Abstract entities are prevalent, such as ‘business’, ‘finance’, ‘trade’, ‘technology’ and ‘economy’ which students need to repeat several times in a text depending on the question. There are several more complex technical terms such as ‘economies of scale’ and ‘economic cycles’ but these are not usually defined. As the meaning of technical terms is not always ‘unpacked’ or defined in Business Studies, successful writers tend to assume that the examiner understand them .

Business Studies answers construe meaning about abstract entities in a process known as grammatical metaphor. Experiential grammatical metaphor involves shifts of meaning where a lexical item ‘that usually means one thing comes to mean another’ (Martin & Rose, 2007, p. 109). By far the most common form of experiential grammatical metaphor in Business Studies is transformation of a process into a thing, known as nominalisation. When nominalisation occurs, there is usually a more congruent, or simpler, everyday version of meaning that is closer to spoken language which can be ‘unpacked’. For example, in clause 14, one of the reasons why businesses expand is described as ‘tax minimisation’, a nominal group (shown in bold).

Some businesses expand globally to avoid tax and to achieve **tax minimisation**.

The more congruent form of ‘tax minimisation’ changes the class of these words, so that ‘minimisation’ becomes a process, ‘minimise’, and tax becomes the main noun rather than a classifier in front of minimisation.

Some businesses expand globally to avoid tax and so they **minimise tax**.

There is an even simpler unpacking of this clause, where minimise becomes a classifier: minimum, and a more spoken process is used: pay.

Some businesses expand globally to avoid tax and so they **pay minimum tax**.

This kind of grammatical metaphor represents a transformation of meaning from a business process (‘pay minimum tax’) to a business goal which is a ‘thing’ (‘tax minimisation’). In this way, grammatical metaphors ‘symbolise semantic figures involving both entities and the actions engaging them’ (Martin, 2013, p. 27). In building meaning in the text, the grammatical metaphor ‘tax minimisation’ can then become the

theme of a new clause, as happens in the Business Studies text. The reference item ‘this’ is used as a substitute for ‘tax minimisation’, making the text even more abstract:

Some businesses expand globally to avoid tax and to achieve **tax minimisation**. **This** can be achieved in countries such as the Cook Islands where a tax haven exists...(Clauses 14-15)

In this way, technicality such as tax minimisation becomes a way of ‘distilling metaphorical discourse as compact entities for purposes of theory building’ (Martin, 2011, p. 49). These compact entities can then be used in a chain of reasoning in an implication sequence, which will be explored further below. The Business Studies text has an average of 1.2 experiential grammatical metaphors for each ranking clause, which shows that this is a significant meaning-making resource.

In the exemplar answer, there are two definitions of technical terms that are lexical metaphors: tax haven and tax shelter. Through elaboration, clause 15ii provides the definition of tax haven.

- 15i This (tax minimisation) is achieved in countries such as the Cook Islands [[where a tax haven exists]]
- 15ii which means [[that there is no tax placed on either domestic companies or global companies]].

The elaboration move, ‘which means’ is an important resource for expanding meaning and this will become part of ‘making a point’ in Business Studies. This is one of the strategies identified by Wignell, Martin and Eggins (1993, p. 150) of establishing the meaning of technical terms. Through a relational process a token-value relationship is created, as shown in Figure A3:

tax haven	means	[[that there is no tax placed on either domestic companies or global companies]]
Token	Process:relational	Value

Figure A3: Defining a technical term: tax haven

Logical metaphor is another form of grammatical metaphor commonly used in explanations to show ‘cause in the clause’ (Achugar & Schleppegrell, 2005). In logical

metaphor, a causal relationship is nominalised. For example, the noun ‘reason’ implies a cause and effect relationship as shown in this example:

Diversification is another **reason** [[why businesses expand globally]].

A more congruent way of unpacking this clause would be to use a conjunction (‘because’ or ‘so’) to link business expansion with diversification:

Businesses expand globally **because** they want to diversify.
or

Businesses expand globally **so** they can diversify.

Conjunctions like ‘because’ and ‘so’ are commonly used in Business Studies answers as well as logical metaphors like ‘reason’ and even the more neutral ‘issue’ in part 2 of the exemplar answer, which implies an effect

significant political issues that arise when businesses expand globally.

Logical metaphors are a resource of explanations, which enable ‘precise nominal formulations of potentially complex clauses... and effects’ (Martin, 2013, p. 31) such as ‘reasons for global expansion’ and even ‘a saturated market that limits potential growth and the maximisation of profit’. These sorts of logical metaphors can help in fine tuning our understanding of the impact of one cause on another or of the complexities of several effects on a business.

Students do not necessarily have to create grammatical metaphor for themselves. Instead, dot points from the syllabus ‘pre-packaged’ technical and abstract terms which students only have to reproduce. For example, the exemplar text relates to the syllabus topic of Reasons for Global Expansion. The dot points from the syllabus are construed using experiential and logical grammatical metaphor Table A4 shows how each syllabus point has been analysed to identify grammatical metaphor and show the move from its typical or more congruent, spoken grammatical form.

Table A4: Grammatical metaphor in Business Studies syllabus points

Syllabus point (Board of Studies NSW, 2009)	Grammatical metaphor found in text	Congruent form
1. increase sales	sales (Thing)	sell (process)
2. acquire resources and have access to technology	access (Thing)	access (process)
3. diversification	diversification (Thing)	diverse (Epithet) and diversify (Process)
4. minimise competitive risk	minimise (Process) competitive (Classifier) risk (Thing)	minimum (Epithet) compete (Process) risk (Process)
5. economies of scale	<i>This lexical item has become a technical term as it is no longer associated with a congruent meaning.</i>	
6. cushioning economic cycles	cushioning (process) economic (Classifier) cycles (Thing)	cushion (Thing) economy (Thing) cycle (process)
7. regulatory differences	regulatory (Classifier) differences (Thing)	regulate (process) different (Epithet)
8. tax minimisation	tax (Classifier) minimisation (Thing)	tax (Thing and process) minimum (Thing and Classifier) and minimise (process)

There are several types of semantic shift in these syllabus points:

1. Process to Thing – e.g. sell to sales - nominalisation (points 1,2,4,8)
2. Epithet to Thing – e.g. different to differences - nominalisation (point 3 and 7)
3. Process to Classifier - e.g. regulate to regulatory - (point 7)
4. Thing to Classifier – e.g. economy to economic (point 6).
5. Thing to Process – e.g. cushion to cushioning (point 6)

These types of shifts are also found in the exemplar Business Studies text also showed extensive use of grammatical metaphor by repetition of these lexical items. The exact wordings of the syllabus points are repeated exactly, such as ‘cushioning economic cycles’ which is in the syllabus and in the student’s text. In this way, the students simply have to memorise the syllabus points and reproduce them in their answers.

A.13.3 Structure of the nominal group

Successful writing in Business Studies features long nominal groups with post-modifying elements including embedding. Embedded clauses are downranked, which means that they are not separate clauses, and they serve within the structure of a group (Halliday & Matthiessen, 2004, p. 426). The Business Studies text has nine embedded clauses which form part of the nominal group. The first group of these are defining relative clauses where the embedded clause serves as a Postmodifier in the nominal group:

- 3 political, social/cultural management issues [[that arise with a global workforce]].
- 4 saturated market [[that limits potential growth and the maximisation of profit.]]
- 15i the Cook Islands [[where a tax haven exists]].
- 15ii no tax [[placed on either domestic companies or global companies.]]
- 16ii the taxes [[that they pay in their domestic country]]

There are also 3 instances of embedded clauses as Head (that is in place of a nominal group that would normally have a Head/Thing) (Halliday & Matthiessen, 2004, p. 427) for example:

- 20i [[Cushioning economic cycles]] is also a reason [[to expand globally]].

‘Cushioning economic cycles’ is an embedded clause as head which is a reason for global expansion. Embedded clauses are a feature of planned writing which add sophistication and elaborative detail to the nominal group.

Embedding shows that writing in Business Studies can be planned and carefully constructed even in the examination situation, unlike writing in Music which does not use grammatical metaphor as a resource.

A.14 Additional analysis of experiential meaning in Music Texts 1 and 2

A.14.1 Transitivity

This section briefly discusses process types in Music answers, starting with material processes, followed by relational processes and then finally, projection involving musical notation.

In the Music texts, material processes dominate, mostly around the lexical items ‘perform’ and ‘play’. In Music Text 1, there are three instances of ‘play’ and six of ‘perform’. In Music Text 2, there is only one instance of ‘play’ however the same meaning is realised through other processes.

In Music Text 2, relational processes are sometimes used where the material process ‘play’ is agnate.

20i ‘Melody **is made up of** mostly long durations.’

21i ‘In strings climax, oboe and clarinets **have** a series of sustained notes.’

22i ‘Percussion **has** shorter notes like cymbal crashes.’

In both texts, relational identifying processes are used to provide definitions of the type of structure and other features that apply to the entire musical work or to longer segments.

Text 1: ‘This piece **is** a theme and variation. Each section **is** 4 bars long.’

Text 2: ‘Melody **is made up of** mostly long durations.’

There are several problematic processes with more than one possible analysis, with many instances of the lexical items ‘provides’ and ‘contrasts with.’ These processes are used in a way that is similar to a relational process even though they could be a material process in another context. Two possible analyses are represented in Figure A4.

Option 1

Repetition of melody	provides	unity
Token	Process: material	Value

Option 2

Repetition of melody	provides	unity
Token	Process: relational: identifying: circumstantial	Value

Figure A4: Possible analyses of ‘provides’ process in Music answers

In these examples, the student is creating abstract meaning by linking two pieces of information, both of which could be classified as principles of composition (‘repetition’ and ‘unity’). Abstract relationships tend to be realised in relational processes, rather than material processes of the physical world. Therefore, due to the use of the lexical verb ‘provides’ to link and relate information, I have classified this as a relational process.

Analysis of the process ‘contrasts with’ is also problematic. It has been classified as a relational circumstantial process. Possible interpretations of Music Text 1 clause 12 are found in Figure A5.

Option 1

Pure tone colour of recorder	contrasts with	stringed tone colour of supporting lute.
Token	Process: relational: circumstantial	Value

Option 2

Pure tone colour of recorder	is contrasted with	stringed tone colour of supporting lute.
Token	Process: relational: (passive)	Value

Figure A5: Possible analyses of ‘provides’ process in Music answers

In support of ‘contrasts with’ as a relational process, the Token and Value are reversible and it has a passive form, with either Token or Value as Subject. This means that ‘provides’ and ‘contrasts with’ are both relational processes in musical discourse.

The final process type to be discussed is a projection of musical notation. In Music Text 1, there is an interesting use of musical notation which forms part of the clause as shown in Figure A6.

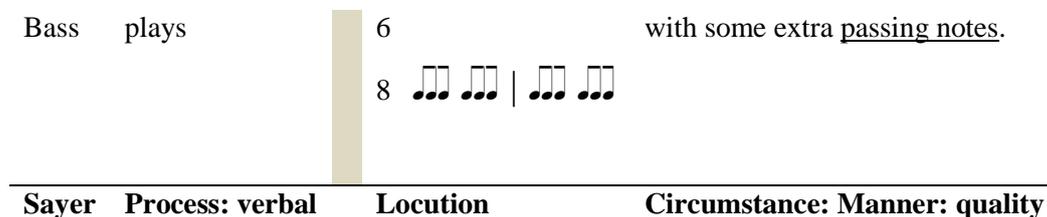


Figure A6: Possible analyses of ‘provides’ process in Music answers

The notation, or ‘what the music plays’ is classified as a locution, with the musical instrument acting as the Sayer. This analysis has contributed to the notion of musical sound as a projection by the performing media, as diagrammatically represented in Chapter 4 Figure 4.16, the representation of aspects of the syllabus for Music.

A.14.2 Technicality, abstraction and grammatical metaphor

In addition to specialised language of performing media, the field of Music uses extensive technicality. Technicality refers ‘to the use of terms of expressions (but mostly nominal group constituents) with a specialised field-specific meaning’ (Wignell et al., 1993, p. 144). Technical terms do not refer to concrete items in the material world, but rather to abstract entities ‘that have to be construed through language’ (Martin, 2013, p. 29). Many entities in are abstract technical terms, including the names of the concepts of music: pitch, duration, tone colour, dynamics and expressive techniques, texture and structure. Italian words are also common (e.g. ‘pizzicato’ – plucked, ‘arco’ – played with a bow). Markers’ comments include lists of technical lexis needed in musical writing. To exemplify, Music Texts 1 and 2 have extensive technicality shown in Table A5, with the number of instances of each technical term shown in brackets if more than one.

Table A5: technicality in music answers

Music Text 1	Music Text 2
ensemble	melody (9)
bars (3)	melodic
time signature	pitch (2)
6/8	register
A A1 A2 A3 A4 A5 A6 A7	harmony, harmonic (2), harmonies
theme and variations	tone colour (2)
phrase, phrased	piece
melody (9), melody line	dynamics (2)
passing notes	texture (2)
harmonic	homophonic
chords	polyphonic
tone colour (2)	scale
ornamented, ornaments, ornamentation	solo (3)
mordents	
trills	
pizzicato	
arco	
bowing	
pizzicato	
figure	
bass (2)	

In two relatively short texts, the use of technical lexis is impressive. Part of the scope of this research is to specify what particular terms students need to know to achieve a Band 6 mark in the HSC. The system networks and taxonomies of performing media, concepts of music and principles of composition have been constructed based on the high level of technicality found in successful student texts and markers' comments. Therefore, these taxonomies represent the knowledge structure required by students for this particular examination at the end of Year 12.

This high level of technicality can pose a challenge for many students of Music. Students who study this particular course come from diverse backgrounds and many come from a background without formal theory training. As a consequence, this high level of technicality could be daunting for some students. This is why it is so important to see the system networks as end points of cumulative learning, so that the required technical terms (and understanding of their relationships to other aspects of music) can be built gradually over the years.

A.14.3 Structure of the nominal group

One way of packing musical meaning into a clause by using classifiers in the nominal group. The Classifier^Thing structure of a nominal group is prominent in successful music texts. Performing media and concepts of music can take the role of Classifier or Thing, giving students flexibility in the way they construct meaning about participants in music texts as shown in these examples from Music Text 1 and 2 in Table A6.

Table A6: Role of central element in nuclear structure of nominal groups in Music texts

Central element	Examples
Musical instrument as Classifier and Focus	oboe melody pure tone colour of recorder
Musical instrument as Thing in: Classifier^ Thing Epithet^Thing	pizzicato strings supporting lute
Concept of Music as Classifier	harmonic support
Concept of Music as Thing in Classifier^Thing	oboe melody

This table shows how performing media and concepts of music are integrally related within the nominal group in successful answers. This also shows that system networks and taxonomies are built in the nominal group level as well as at the clause level, compacting meaning about performing media and concepts in a time-efficient way. While there was no time in the intervention lessons to focus on the nominal group level, this would be a fruitful area to explore with students.

A.15 Nuclear relations: performing media and concepts of music

Relations between aspects of music require clarification to show how performing media are related to concepts, and how time is related to concepts, and so on. To find out how aspects of music are related, we turn to nuclear relations.

Nuclear analysis shows relations between performing media and concepts of music and how they work together to construct meaning. In effective clauses in Music (ie. those with a sense of agency), the Agent is usually a voice or instrument that is acting on the music to create an aspect of a concept of music. This contrasts with effective clauses in Business Studies, where the agent is a business which acts to increase profits or reduce costs. The agentive role of performing media helps to explain the relationship of performing media and concepts of music and explains why every successful music answer can refer to performing media i.e. because it is the performing media that generate the sound. Examples of these types of clauses are shown in Table A7, with the medium shaded. Viol, bass and strings play or perform or otherwise act on the entities from the pitch system networks (melody, bass notes or bowing).

Table A7: Nuclear message structure in Music texts, effective clauses

	Clause	nuclear (Agent)	central	Nuclear	Peripheral
Music	6i	viol	performs	Melody	
Text 1	6ii	bass string instrument	provides	bass notes	
	17	pizzicato strings	contrast with	previous bass arco bowing	
Music	2iii	(the string part)	takes	the melody	on a gradually ascending path
Text 2	13ii	the strings	augment	it (the melody)	

Where Business Studies texts have only activity-based clauses centred around a process, Music texts have both activity-focused and entity-focused clauses. These build taxonomic relations between entities and are common in descriptive texts (Martin & Rose, 2007). In entity-focused clauses, relating processes connect classes with members of a class or a whole with its parts, building taxonomies as in these examples from Music Text 2. System networks of long/short note values are built by specifying note length ('long durations', 'sustained notes' and 'shorter notes'). Performing media are the medium that create the durations, as shown in Table A8.

Music Text 2

- 20i Melody is made up mostly of long durations
- 21i In strings climax, oboe and clarinets have a series of sustained notes
- 22i Also, percussion has shorter notes like cymbal crashes.

Table A8: Nuclear structure in entity focused messages in Music Text 2

Clause	Nuclear	Central	Nuclear	Peripheral
20i	melody	long durations (part)		
21i	oboe and clarinets	series of sustained notes (co-class)		in strings climax
22i	percussion	shorter notes (co-class)		like cymbal crashes

The relevant network from the duration system (Appendix B) is shown here:

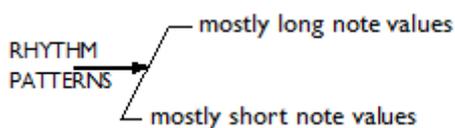


Figure A7: System of note values

A final important element of nuclear analysis, the peripheral category, again shows the importance of time in describing music. Circumstances locate and identify the exact time of the musical event being described. In Music Text 2, there are 20 circumstances of time, showing when things happen e.g. in opening, at beginning, to the beginning, in strings climax etc. In Music Text 1, there are not many circumstances at all. Instead, headings stating the names of the sections A A1 A2 A3 etc which replace circumstances of time (eg. Section A1). Circumstance types are summarised in Table A9.

Table A9: Circumstances in Music texts

Peripheral (circumstances)	Music Text 1	Music Text 2
Outer circumstances of time and place	2	20
Inner means, matter	1	11

There are also a large number of inner circumstances in Music Text 2. Inner circumstances are relatively nuclear and are like participants (Martin & Rose, 2007, p. 95) e.g. Oboe takes over with its thin nasal sound with new melodic material. Analysed in terms of transitivity, the circumstances are of manner then accompaniment. These

types of clauses could easily be transformed so that the circumstantial elements become participants e.g. ‘Oboe has a thin nasal sound’ or ‘Oboe plays new melodic material’.

One way of representing the nuclear structure of a music clause is a series of nested ellipses, after Martin and Rose (2007). This shows in one simple diagram, how performing media, concepts and time are related. Concepts of music appear in central or nuclear roles in a clause. Performing media are also nuclear and highly prominent. Circumstances of time in the periphery of the nuclear structure are significant for relating the message to a time in the music.

A summary of the clause nuclear structure in Music can be shown in Figure A8:

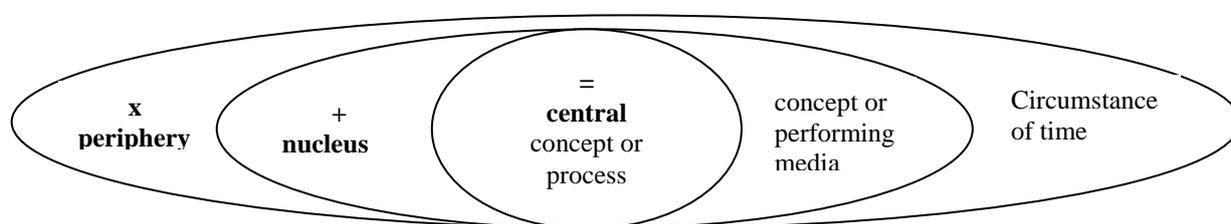


Figure A8: Nuclear structure messages in Music texts

Analysis of the nominal group structure will further explore how meaning is built about the concepts of music, capturing nominal groups in circumstance roles as well as participants. These analyses are relevant to the development of how to ‘make a point’ in Music. Analysis tables for nuclear relations in Music Text 1 and Music Text 2 are found in A.16 and A.17 to follow.

A.16 Nuclear relations in Music Text I

Analysis is based on Martin & Rose 2007, p.106-109. Grammatical metaphor has been ‘unpacked’ in order to analyse nuclear structure of clauses. Medium is indicated by a shaded box.

Clause	nuclear	central	nuclear	peripheral
1	this piece	theme and variations (class)		
2i and ii	a small ensemble consisting of a viol, recorder, lute, and bass stringed instrument.	performs	it (this piece)	
3i	Each section	three bars long (part)		
3ii	the time signature structure	68 (class)		
Head- ing		A1 A2 A3 A4 A5 A6 A7		
4a	melody	repeats		
4b	repeated melody	provides	unity	throughout
5a	the piece	uses	the same instrument	
5b	the same instrument	provides	unity	
6i	viol	performs	melody	
6ii	bass string instrument	provides	bass notes	
7	the phrases	two bars (part)		
8i and ii	bass	plays	(notation)	with chords
9	lute	provides	harmonic support	
10	recorder	performs	melody	
11	melody	remains	the same	
12	pure tone colour of recorder	contrasts with	stringed tone colour of supporting lute melody	
13	viol	performs		
14	melody line	more ornamented (co-class)		particularly in the second bar of each phrase
15	melody	uses	decorative patterns such as mordents ornaments and short trills	
16	pizzicato strings	provide	bass	
17	pizzicato strings	contrast with	previous bass arco bowing	
18	viol	performs	melody	
19	lute	supports	it (viol)	
20i	bass	(plays)		
20ii	bass	uses	pizzicato strings	
21	pizzicato strings	contrasts with	previous bass figure	
22	viol	performs	melody	
23	recorder	plays	melody	
24	there	less ornamentation (co-class)		

A.17 Nuclear relations in Music Text 2

Analysis is based on Martin & Rose 2007, p.106-109. Grammatical metaphor has been ‘unpacked’ in order to analyse nuclear structure of clauses. Medium is indicated by a shaded box.

Clause	nuclear	central	nuclear	peripheral	marginal
1	pitch material	begins		with oboe melody in a narrow pitch range, low register	
2i	the string part	takes over			
2ii	(it)	wider range (co-class)			
2iii	(it)	takes	the melody	on a gradually ascending path	
3	this rise in pitch	adds to	the climax of the piece, a contrast from the restricted oboe melody		
4i	the amount of harmonic material	increases		towards the climax	
4ii	more rich and complex harmonies	are present			
5	(The piece)	begins		with solo oboe and rich swelling string	
6i	This (solo oboe etc)	changes			
6ii	melody	repeats			
6iii	strings	take the lead			
7	(strings)	a more rich and varied tone colour (co-class)			
8	oboe	takes over		again with its thin nasal sound with new melodic material	
9i and ii	it (melody) (Strings)	swaps rich and full sound (co-class)		again, to strings	
iii	strings	take	the piece	to its climax	
10i	(the composer? the piece)	adds	brass and cymbals and rest of orchestra		
ii	(they)	blend with	strings	for a warm mellow effect	
11	(they)	contrast from	solo oboe		
12	Smeaton	begins		quietly	
13i	He	allows ...to take	the melody		the strings
ii	the strings	augment	it (melody)		
iii	the strings	take	the melody	upwards and to a climax	
14	there	less formal			

		structure (co-class)		
15i	dynamics	are	quite soft	in opening
15ii	they (dynamics)	swell		hugely
16i	volume	dies back down		to moderate for a while
16ii	(volume)	(increases)		to very loud with whole orchestra for ending
17	this (volume)	is directly contrasting to	softness	at beginning
18	there	is	contrast	(at the) beginning... between thin oboe melody with accompaniment homophonic and the ending
18ii	(there)	multi layered climax (co- class)		with many harmonic layers (polyphonic)
19i	texture	swells		gradually.. with addition of instruments and depth of harmony
19ii	(texture)	ends up	contrasting	to the beginning
20i	melody	long durations (parts)		
20ii	there	(a) quicker, scale-like bit (co-class)		
21i	oboe and clarinets	a series of sustained notes (co-class)		in strings climax
21ii	sustained notes	slightly faster melody (co-class)		over the top
22i	percussion	shorter notes like cymbal crashes (co-class)		
22ii	these (shorter notes)	contrast to	the melody	in length
23	(there)	is	solo oboe and strings	

A.18 Connecting ideas in Music

Connecting ideas from clause to clause does not seem to be a significant requirement for success in Music. This is in contrast with writing in Business Studies that depends on logico-semantic relations of consequence-cause and purpose. As shown in the analysis of taxis in A.7 and A.8, many clauses are simplex and there are few relations of hypotaxis. This may be due to the exigencies of the examination situation, where students write about music they have never previously heard under time pressure, students tend to jot down ideas as they hear them.

Music texts can be written in paragraphs (as in Music Text 2) or simply as ‘dot points’ (Music Text 1). Ellipsis may be a time saving technique in the pressured environment of the exam room. The most commonly ellipited items are ‘the’ and ‘there is’. These examples show ellipited items included in brackets:

Music Text 1

20i (The) Melody is made up mostly of long duration

7 (There is) A more rich and varied tone colour.

Music Text 2

6i Viol performs (the) melody

24 (There is) Less ornamentation.

The use of ellipsis is a feature of Music but not Business Studies texts, perhaps demonstrating how the nature of the Music examination task prevents careful planning of language whereas Business Studies texts can be more rehearsed or prepared. A reliance on clause simplex (19 in Music Text 1 and 10 in Music Text 2) and relatively few conjunctions also show that findings about music can be relatively independent of other clauses. Even though Music Text 2 does have paragraphs, these are only short, with one paragraph about each concept of music and no logical connections between paragraphs.

Instead of connecting a clause to the preceding or following clause, meaning seems to be connected with a specific time in the music. Every message needs to be linked to a particular time in the excerpt, by using headings, circumstantial elements in a clause or labels in a diagram. This makes reference to time the glue that holds a music answer together. The most significant findings about how to make a descriptive statement in Music have been synthesised as ‘making a point’.

Appendix B

The contents of Appendix B are relevant to discussion in Chapter 4 of the thesis. The system networks and taxonomies of concepts of music.

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B.1 Introduction to the system networks and taxonomies of concepts of music

This appendix should be read in conjunction with Chapter 4 and Chapter 5 of this thesis.

One of the aims of this research project is to represent the knowledge structure of Music in a principled and systematic way. Representations of the concepts of music in this appendix are a heuristic for pedagogic purposes in teacher professional development and secondary school music teaching, as a more principled alternative to the dot points of the syllabus. It is not expected that students would use these figures and tables as they appear in this appendix. Instead, these system networks and taxonomies form the basis of a spiral curriculum for Music, leading to simplified versions that can be provided to students, as exemplified in Figure 6.14 in Chapter 6.

To represent the concepts of music, both system networks and taxonomies are used to represent the knowledge structure of music. The nature of each will be briefly defined and explained, followed by an explanation of how to read the system networks, taxonomies and realisation tables developed in this research.

B.1.1 Taxonomies

Taxonomies are commonly used in a wide range of disciplines especially in sciences and social sciences to show relationships between aspects of knowledge. The provenance of the word taxonomy is ancient Greek: 'taxis', arrangement, and 'nomia' method, so it is a method of arranging knowledge. Rather than a list of musical terms as presented in the syllabus, taxonomies organise information systematically. As explained by Halliday (1993, p. 73), 'technical concepts have little value in themselves; they derive their meaning from being organized into taxonomies. Such taxonomies are not simple groups of related terms; they (are) highly ordered constructions in which every term has a definite functional value'. Taxonomies of music can, therefore, order musical terms in relation to one another, so the value of each term is clearer.

There are two main relationships in taxonomies: classification and compositional. Classification taxonomies are based on the semantic relationship of class membership or superordination where '*a* is a type of *x*' and compositional taxonomies relate parts to a whole (composition), where '*a* is a part of *y*' (Halliday, 1993, p. 73). Classification

taxonomies tend to show relations between entities or qualities of entities. These are concrete or material aspects of a field such as taxonomies of performing media in music.

Classification taxonomies of performing media, for example, show the types of musical instruments students need to be able to identify aurally, and also which instrument ‘family’ each one belongs to. A taxonomy here is read from left to right, exemplified in Figure B1. Starting with ‘orchestral’ on the left, which is a type of instrument, four sub-types of orchestral instruments are shown: strings, woodwind, brass and percussion, connected by lines and representing the families of orchestral instruments learnt by every Year 7 Music student. Each of these types has further sub-types, for example, that violin, viola, cello, double bass and harp are types of string instruments. Only the orchestral instrument taxonomy has been represented in Figure B1 but the full taxonomy can be found in B.23 and B.24.

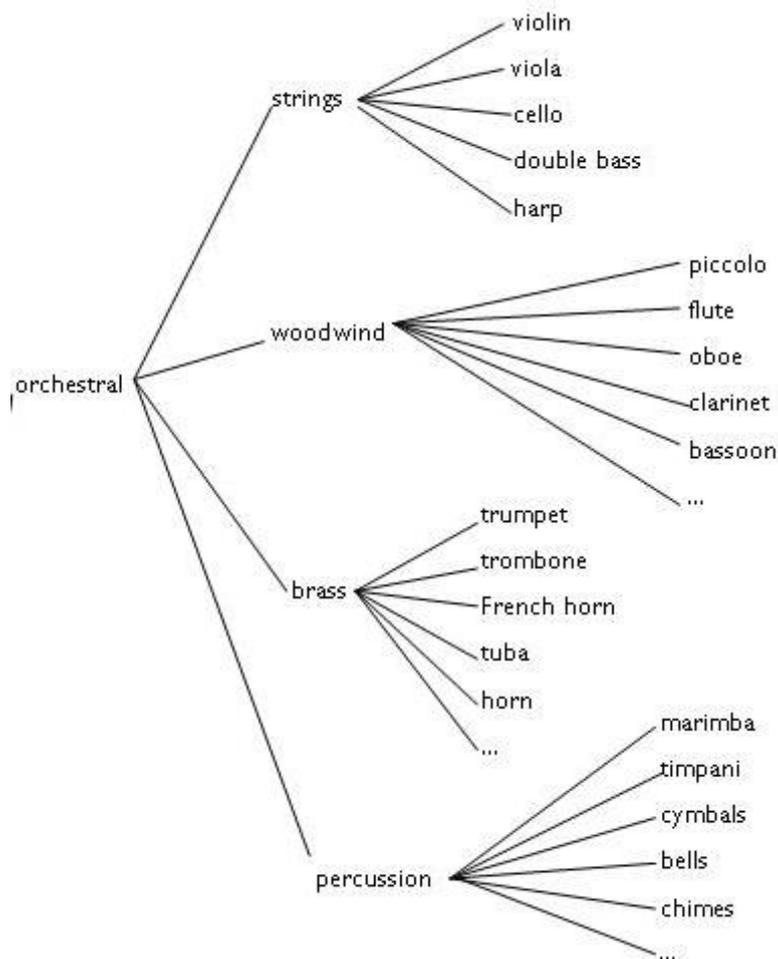


Figure B1: Excerpt of taxonomy of instruments

Items or entities positioned further right on the taxonomy are more specific than those on the left. So we can say that ‘violin’ is a more specific choice than ‘string’ or ‘instrument’. The three dots ‘...’ indicate that there are other types that belong to the class, but that these are not necessarily required by music students in this examination. For example, ‘cor anglais’ is a type of woodwind instrument, but as it is unlikely that students could aurally identify the sound of this instrument and due to the fact that the cor anglais does not commonly have a prominent role in orchestral compositions, it has been omitted from the taxonomy.

Taxonomies, such as the taxonomy of orchestral instruments, are used to represent concrete and material aspects of music, as opposed to more abstract meanings represented in system networks.

B.1.2. System networks

In addition to classification taxonomies, system networks will be used to represent abstract meanings about concepts of music. System networks represent meaning choices as options from the total meaning potential of a semiotic. In contrast, a taxonomy represents entities or qualities. When developing a way of visually representing musical knowledge in this project, taxonomies were found to be somewhat restrictive. In the Music examination, students often have to refer to multiple features of music. For instance, in describing a melody, successful students write about four different aspects of pitch: register (a quality of high or low key), range (from wide to narrow), direction (ascending or descending), as well as contour (smooth or jagged). Taxonomies do not accommodate simultaneous features such as these, which is why system networks were developed instead.

System network formalism accommodates multiple features of music combined in simultaneous systems. However, in contrast with system networks developed in other contexts, the system networks of concepts of music represent options of *expression* rather than *meaning*. As explained in Chapter 4, students sitting for the HSC examination are constrained in the way they can interpret music. Instead of being able to access the total meaning potential of music, that is, anything that could possibly be ‘meant’, students can only refer to concepts of music and principles of composition. Consequently, the system networks in this research describe expressions of meaning that are realised in a musical excerpt.

In this research, concepts of music are represented as both system networks and taxonomies of realisations or expressive options. Taxonomies have been retained for the more concrete and material realisations of musical meaning, such as in the organisation of musical instruments described earlier. System networks express options for the six concepts of music and for principles of composition. In order to clarify the relationship between the systems and taxonomies, realisation tables have been developed, to show how features in each system are realised. This method of analysis is based on semiotic principles described in *Reading visual narratives* (Painter et al, 2013). The next section describes how diagrams and tables in this research can be interpreted.

B.1.3 Interpreting system networks, taxonomies and realisation tables

This section explains how to interpret system networks, realisation tables and taxonomies in this research. An example drawn from Chapter 6 will show how system networks, realisation tables and taxonomies are related, and how, in combination, they represent knowledge of concepts of music.

The example is taken from a piece of student writing by James (Figure 6.16 in Chapter 6). In answer to an examination instruction to describe the pitch of an excerpt, James refers a ‘jagged contour melody’ (shown in bold in the excerpt from his answer):

Female vocal 1 plays a sustained ostinato in a medium register, alto
 Female vocal 2 sings a **jagged contour melody** in a high register as the main melody over the female vocals 1

The contour of a melody is part of the knowledge that students need to know for the examination. The knowledge about melodic contour draws on the system smooth/jagged contour represented in Figure B2:

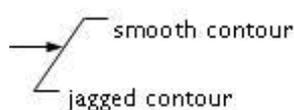


Figure B2: system of melodic contour

The ‘smooth’ and ‘jagged’ features signify in relation to each other. In order to succeed in the examination, James has to understand that smooth/jagged is an opposition and then justify whether the melody has either a smooth or jagged contour in terms of the

music. The smooth/jagged system is on a cline to show a range from maximally smooth to maximally jagged, with many possibilities in between.

Other features of the system networks, not shown in Figure B2, but explained in Chapter 4, are curly brackets, which indicate multiple simultaneous systems. Some system names are represented by small capital letters. Other systems, like in Figure B2, do not have names, as the system name would be the same as the features. For example, Figure B2 could be called the system of SMOOTH/JAGGED CONTOUR. In an effort to maintain the readability of the system networks, some system names have been omitted.

Realisation tables specify the features in a system. In Table B1, the realisation of each feature of the melodic contour system is explained. For example, the feature of ‘smooth contour’ is realised in ‘a pattern of progression by intervals of unison or a 2nd’ such as from the note A to B. The feature of ‘jagged contour’ is realised in ‘a pattern of progression by intervals of a 3rd or higher’.

Table B1: Realisations of melodic contour

Feature	Realisation
smooth contour	a pattern of progression by intervals of unison or a 2 nd (see taxonomy of intervals)
jagged contour	a pattern of progression by intervals of a 3 rd or higher (see taxonomy of intervals)

After the first realisation statement, there is a reference ‘see taxonomy of intervals’. The taxonomy of intervals is a classification taxonomy of types of intervals, shown in Figure B3, which all students need to know about in order to understand smoothness or jaggedness of contours. To visually clarify the difference between systems and taxonomies, taxonomies are connected with oblique lines in a fan-like shape, while systems use arrows, horizontal lines and brackets. Dots representing ellipsis ‘...’ indicate that a finite number of other realisations are possible but those listed here have been found in instances of student examination answers or HSC markers’ comments.

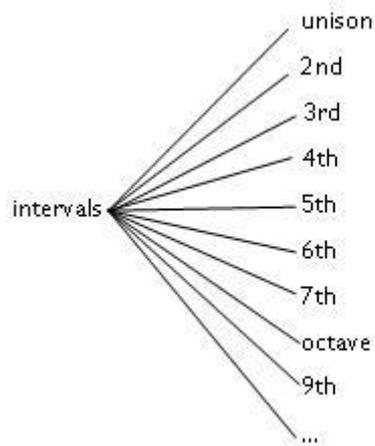


Figure B3: taxonomy of intervals

In order to succeed in the HSC examination, students such as James have to demonstrate knowledge of how smooth contour or jagged contour are realised in progressions of intervals. James's answer has stated that the musical excerpt selects the feature 'jagged' which is realised through intervals of a 3rd, 4th, 5th or higher. Intervals are realisations of jaggedness that James could have specified but did not. His identification of the feature 'jagged' actually implies or carries with it the understanding of intervals larger than a 2nd.

Systems like smooth/jagged contour represent aspects of the meaning potential of concepts of music that students are drawing on in their answers. In order to achieve success in the HSC examination, students need to learn all the aspects of the systems and taxonomies presented in this appendix. Wherever possible, wordings have been chosen from the syllabus or from markers' comments to maintain consistency with official documents, while still showing relations between systems, features and entities in taxonomies. There are standardised ways of describing some features of music, such as intervals. However, there are no standardised ways of describing other features of music, such as types of non-syncopated rhythms. This is why there are taxonomies attached to some but not all features of system networks.

Sections B.2-B.10 present system networks, taxonomies and realisation tables for concepts of music, principles of composition and performing media.

B.2 Duration

The syllabus defines duration as ‘the lengths of sounds and silences in music’ (Board of Studies NSW, 2009, p. 16) and includes four aspects of duration that should be studied: beat, rhythm, tempo and metre. These are four perspectives on duration, which are elaborated in six dot points.

- regular and irregular metres
- metric groupings
- tempo
- rhythmic devices such as syncopation, augmentation and diminution
- methods of notating duration, both traditional and graphic.

(Board of Studies NSW, 2009, p. 16)

Two system networks for duration have been developed: SOUND TIME and RHYTHM PATTERNS. The first one relates to the underlying organisation of time in the whole piece of music, encompassing the first three dot points from the syllabus. The term ‘sound time’ is drawn from van Leeuwen’s network of musical time (van Leeuwen, 1999, p. 61). Taxonomies realising features related to SOUND TIME are duple metre, triple metre, quadruple meter, simple meter, compound meter, irregular metre. The second network is a perspective on the particular rhythm patterns played by performing media and how organisation of time varies from section to section. As there are two systems for the concept of duration, they have been labelled i) and ii) to remind the viewer/reader that both system networks comprise the required knowledge of duration for the HSC examination.

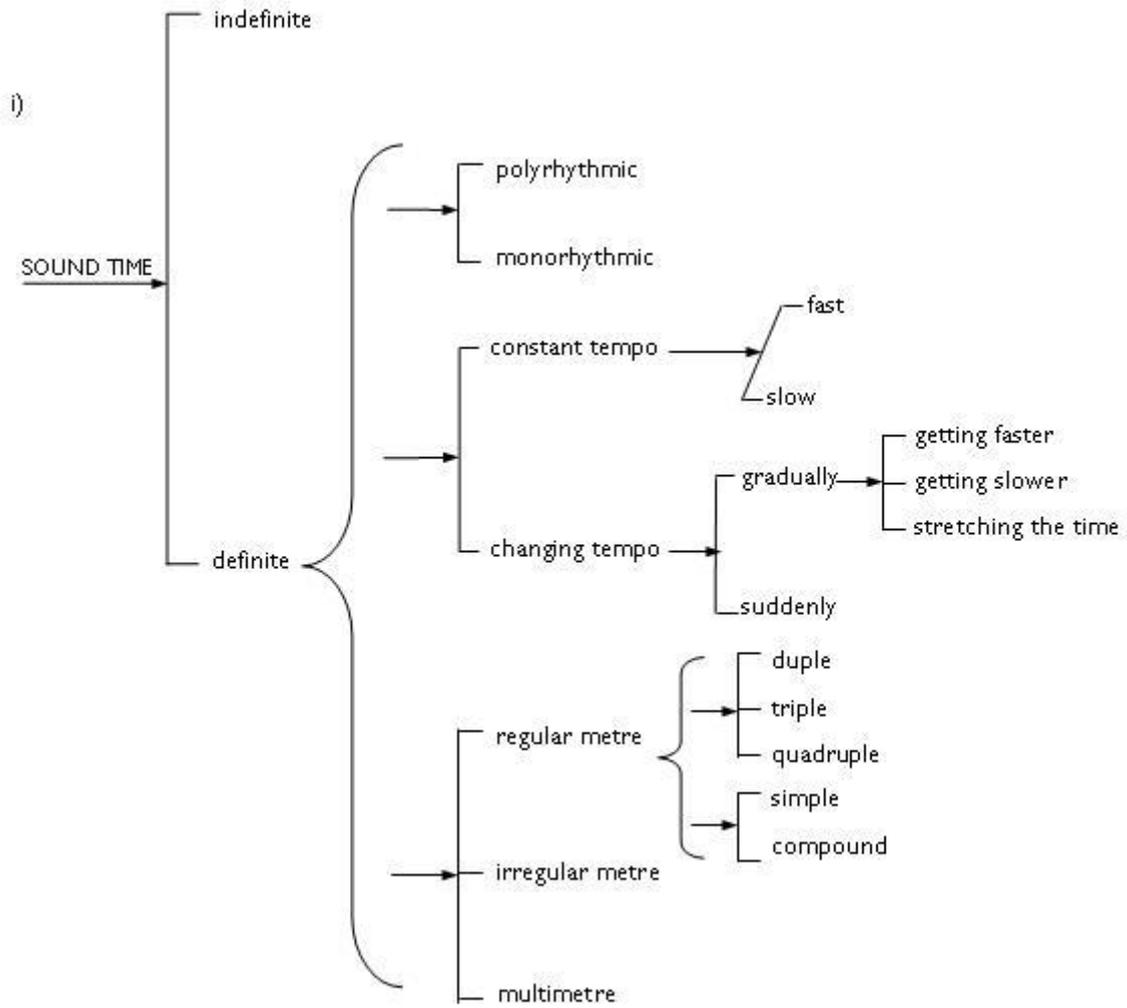


Figure B4: System network for SOUND TIME.

Table B2: Realisations of SOUND TIME

Feature	Realisation
indefinite	no discernible pulse, beat or rhythm underlying the music
definite	pulse, beat and rhythm are discernible
polyrhythmic	several rhythms occur simultaneously
monorhythmic	one rhythm occurs
constant tempo	tempo (speed) remains the same throughout the piece
fast	tempo is quick <i>allegro presto</i> tempo is moderate <i>moderato, andante</i>
slow	tempo is slow <i>lento, largo</i>
changing tempo	tempo (speed) changes during the piece
suddenly	tempo changes occur immediately from one note to the next: suddenly <i>subito</i> ; back to the former speed, <i>a tempo</i> ; suddenly slower, <i>ritenuto</i>
gradually	tempo (speed) changes gradually over a few notes or a few bars
getting faster	the speed becomes faster, <i>accelerando</i>
getting slower	the speed slows, <i>ritardando</i>
stretching the time	the speed changes a little for a few beats then reverts to normal; slight speeding and slowing for expressive purposes <i>rubato</i>
regular metre	beats and accents are grouped consistently in units of two, three or four
duple	2 beats per bar (see taxonomy of duple metre)
triple	3 beats per bar (see taxonomy of triple metre)
quadruple	4 beats per bar (see taxonomy of quadruple metre)
simple	unit of pulse is a whole crotchet or minim beat (see taxonomy of simple metre)
compound	unit of pulse is a dotted beat (see taxonomy of compound metre)
irregular metre	beats and accents are grouped in odd numbered groups
multimetre	numerous changes of time signature occur in quick succession

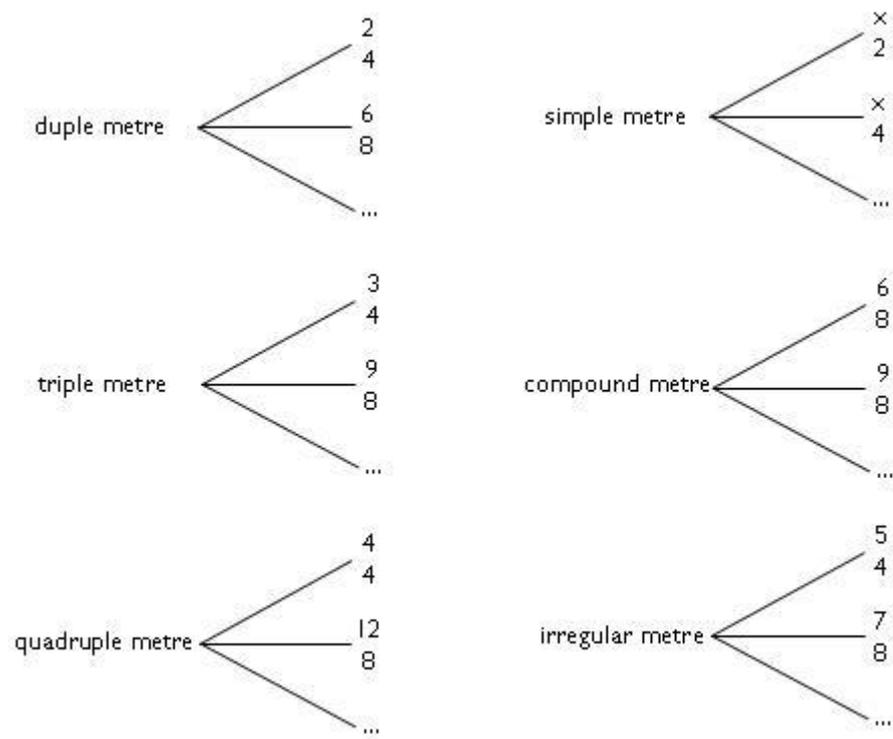


Figure B5: Taxonomies for SOUND TIME

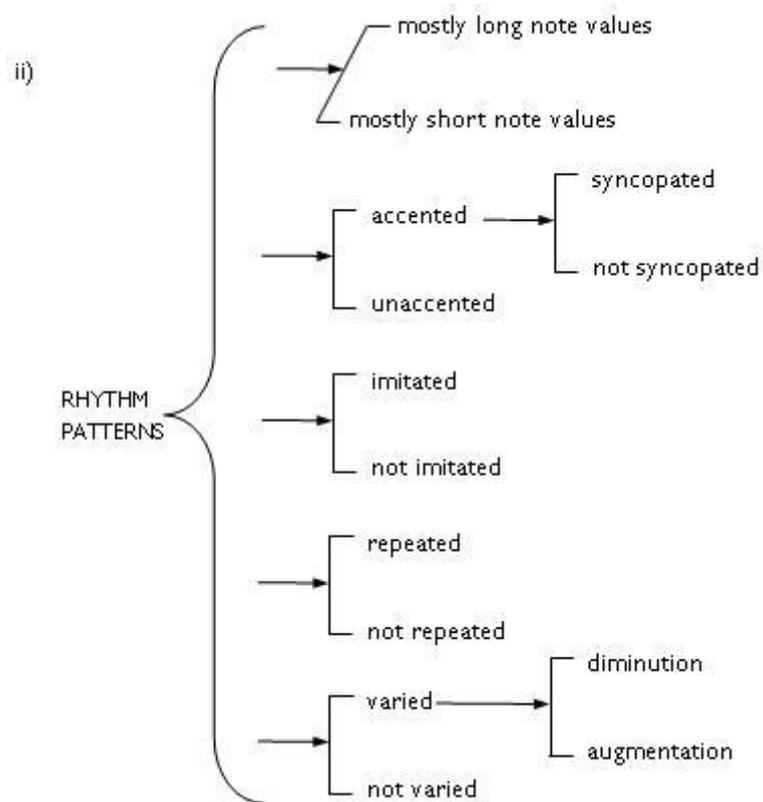


Figure B6: System network for RHYTHM PATTERNS

Table B3: Realisations of RHYTHM PATTERNS

Feature		Realisation
mostly long note values		in the piece, most notes are long or sustained; semibreves, tied notes ...
mostly short note values		in the piece, most notes are short; quavers, semiquavers ...
accented		some notes or beats are emphasised or played louder, with more force than the others
	syncopated	accents are off the main beat (see taxonomy of syncopated rhythms)
	not syncopated	accents are on the main beat
unaccented		all notes and beats receive equal emphasis
imitated		the same or similar rhythm pattern is played by different instruments or in different registers
not imitated		the rhythm pattern is not copied by other instruments or in different registers
repeated		the rhythm pattern is played more than once
not repeated		the rhythm pattern is not played more than once
varied		the rhythm pattern is developed or changed slightly during the piece
	diminution	notes or beats are removed from the pattern
	augmentation	notes or beats are added to the pattern
not varied		the rhythm pattern is not changed during the piece

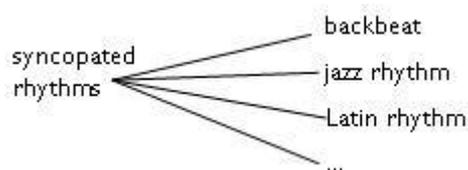


Figure B7: Taxonomies of rhythm patterns

B.3 Pitch

Along with duration, pitch is one of the most complex concepts. The syllabus describes pitch as “the relative highness and lowness of sounds” (Board of Studies NSW, 2009, p. 17). Dot points from the syllabus that students need to understand are:

- definite and indefinite pitch
 - pitch direction and contour
 - pitch patterns
 - pitch range and register
 - harmony
 - methods of notating pitch, both traditional and graphic
 - various scales, modes and other ways of organising pitch.
- (Board of Studies NSW, 2009, p. 17)

To address all of these meanings about pitch in a systematic way, three systems have been developed. The first, PITCH, describes meanings related to the two perspectives on pitch related to time. One perspective, the system of MELODY, takes a horizontal perspective with pitch unfolding sequentially through time, from one note to the next. The other perspective is HARMONY, which considers what pitches that occur simultaneously, often referred to as a vertical perspective. The second system network, MELODIC PATTERNS, concerns the way that particular melodies or harmonies are constructed and how they unfold during the piece. The system of PITCH draws heavily on the pitch systems developed by van Leeuwen (1999, p. 119). However, the system networks in this research refer to concepts of music in terms of the HSC examination and wordings are drawn from successful examination answers, from the syllabus and from markers’ comments.

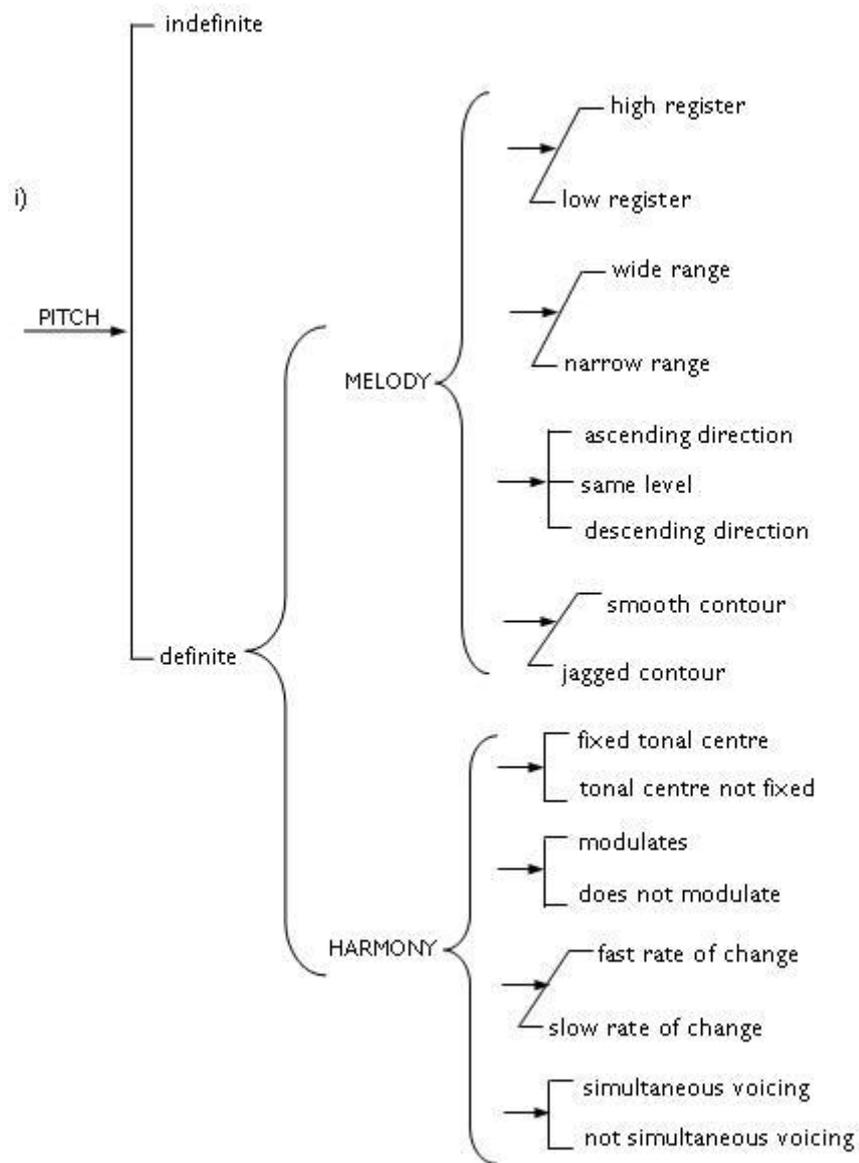


Figure B8: System network for PITCH

Table B4: Realisations of PITCH

Feature	Realisation
indefinite	no discernible pitch as in untuned sounds; created by a hand clap, untuned percussion ...
definite	pitch is discernible as in tuned sounds

Table B5: Realisations of MELODY

Feature	Realisation
high register	itches over 440hz (concert A) or the upper range of a piano keyboard
medium register	itches between 240hz and 440hz (A below middle C and concert A) or the middle range of a piano keyboard.
low register	itches below 240hz or the lower range of a piano keyboard
wide range	the distance between the highest and lowest pitch is more than the interval of a 5 th (see taxonomy of intervals)
narrow range	the distance between the highest and lowest pitch is less than the interval of a 6 th (see taxonomy of intervals)
ascending direction	the pitch rises
same level	the pitch stays on the same level
descending direction	the pitch falls
smooth contour	a pattern of progression by intervals of unison or a 2 nd (see taxonomy of intervals)
jagged contour	a pattern of progression by intervals of a 3 rd or higher (see taxonomy of intervals)

Table B6: Realisations of HARMONY

Feature	Realisation
fixed tonal centre	the home pitch is specified (see taxonomy of chords)
not fixed tonal centre	no home pitch is specified (see taxonomy of chords)
modulates	the home key changes in the piece
does not modulate	the home key remains the same throughout the piece
fast rate of change	chords change on each beat
slow rate of change	chords change after several beats or bars
simultaneous voicing	more than one pitch is played simultaneously to create a chord (see taxonomy of block chords)
not simultaneous voicing	itches are played sequentially to create a chord (see taxonomy of non-block chords)

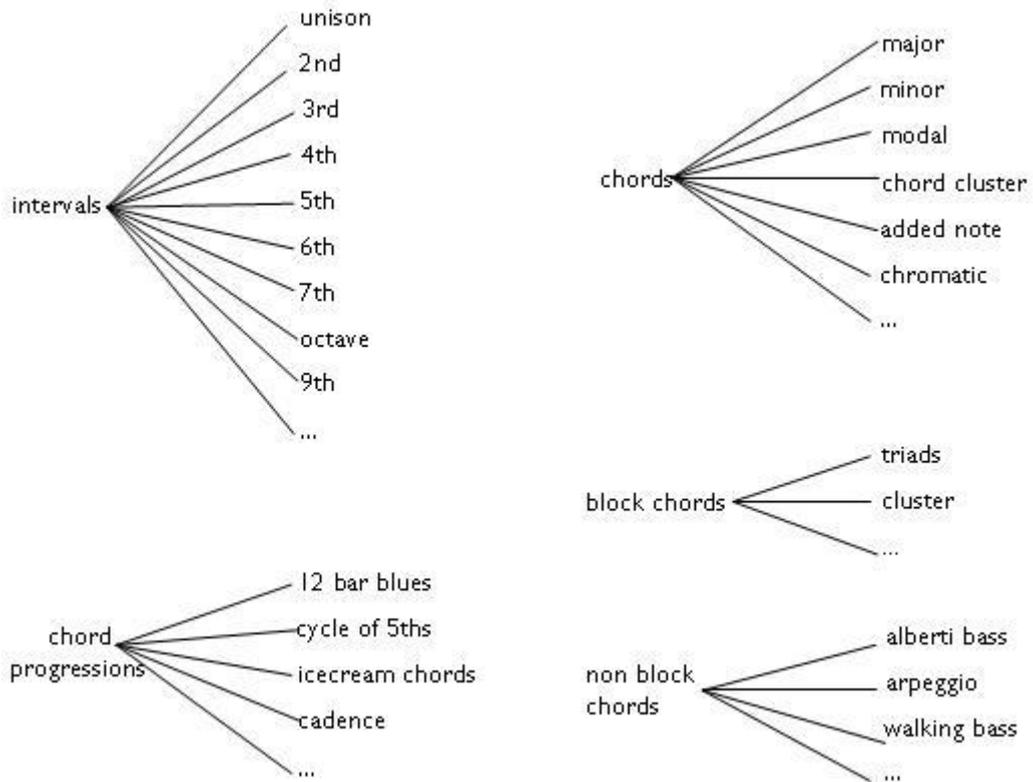


Figure B9: Taxonomies for PITCH

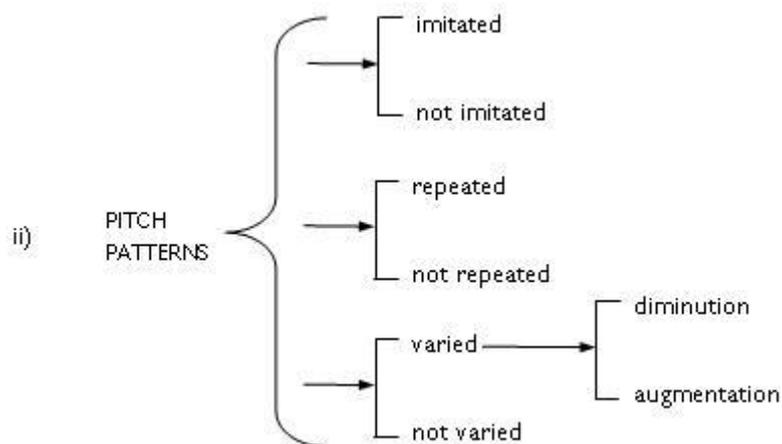


Figure B10: System network for PITCH PATTERNS

Table B7: Realisations of PITCH PATTERNS

Feature	Realisation
imitated	the same or similar pitch pattern is played by different instruments or in different registers (see taxonomy of imitation)
not imitated	the pitch pattern is not copied by other instruments or in different registers
repeated	the pitch pattern is played more than once (see taxonomy of repetition)
not repeated	the pitch pattern is not played more than once
varied	the pitch pattern is developed or changed slightly during the piece
diminution	pitches are removed
augmentation	pitches are added (see taxonomy of ornamentation)
not varied	the pitch pattern is not changed during the piece

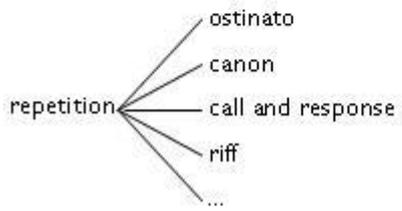
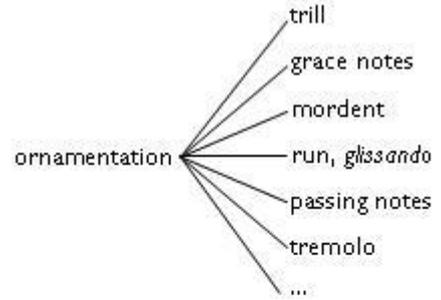
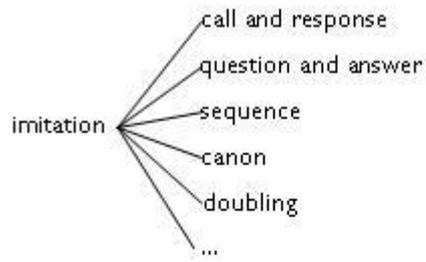


Figure B I I: Taxonomies of pitch patterns

B.4 Dynamics

In the syllabus, dynamics and expressive techniques are combined into once concept. However, these two features of music are of different orders of abstraction. Dynamics is a physical property of sound, volume, which can also be deployed by a performer as an expressive technique. By conflating dynamics and expressive techniques into one concept, there is the potential for confusion. Consequently, each is addressed separately in this research.

The syllabus defines dynamics as ‘the volume of the sound’ including ‘the relative softness and loudness of sound, change of loudness (contrast), and the emphasis on individual sounds (accent)’ (Board of Studies NSW, 2009, p. 17).

The dynamics system network is one of the most simple and straight-forward in the subject, as shown in Figure B12. In the realisations of dynamics, Italian terms are commonly found in successful answers as indicated in Table B8.

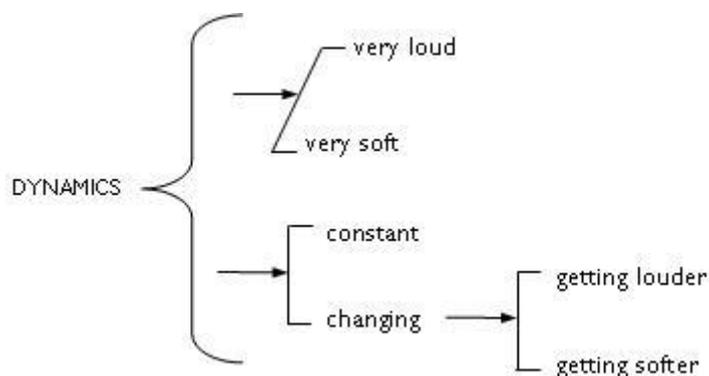


Figure B12: System networks for DYNAMICS

Table B8: Realisations of DYNAMICS

Feature	Realisation
very loud	<i>ff fortissimo or sfz sforzando loud and accented</i>
	<i>f forte</i>
	<i>mf mezzoforte</i>
	<i>p piano</i>
very soft	<i>pp pianissimo</i>
constant	volume level remains the same
changing	volume level becomes louder or softer
becoming louder	<i>crescendo</i>
becoming softer	<i>diminuendo</i>

B.5 Expressive Techniques

The description of expressive techniques in the syllabus is somewhat vague:

Expressive techniques refers to the musical detail that articulates a style or interpretation of a style.(Board of Studies NSW, 2009, p. 17)

The three syllabus dot points related to expressive techniques are:

- articulations
- tempo, including gradations
- stylistic indications.

Expressive techniques refer in a general way to how the performer creates the sound, so this overlaps with other concepts of music. Although not defined in the syllabus, articulations refer to the way in which a musical sound starts and finishes, the attack and decay of a sound, which is related to pitch and tone colour, or the quality of the sound. The meaning of ‘stylistic indications’ is very broad and not entirely clear. There did not seem to be comments in student answers related to stylistic indications, so this aspect of expressive techniques has not been addressed in this research.

There are three systems of expressive techniques: CHANGING TEMPO, ARTICULATIONS and ORNAMENTATION. Changing tempo relates to the concept of duration. Articulations and ornamentation relate to melody, an aspect of pitch. This shows the limitations of these system networks. As the syllabus creates ‘grey areas’ of meaning and overlaps between features of music, it is inevitable that the system networks in this research will mirror some of these problems.

The HSC examination may require students to write about expressive techniques only. Consequently, it was decided to reproduce sub-systems from other concepts in a separate expressive techniques system network. An independent system network for expressive techniques may assist teachers and students in learning about the concept, however, it is hoped that future developments of these networks will address the issue of overlapping meanings.

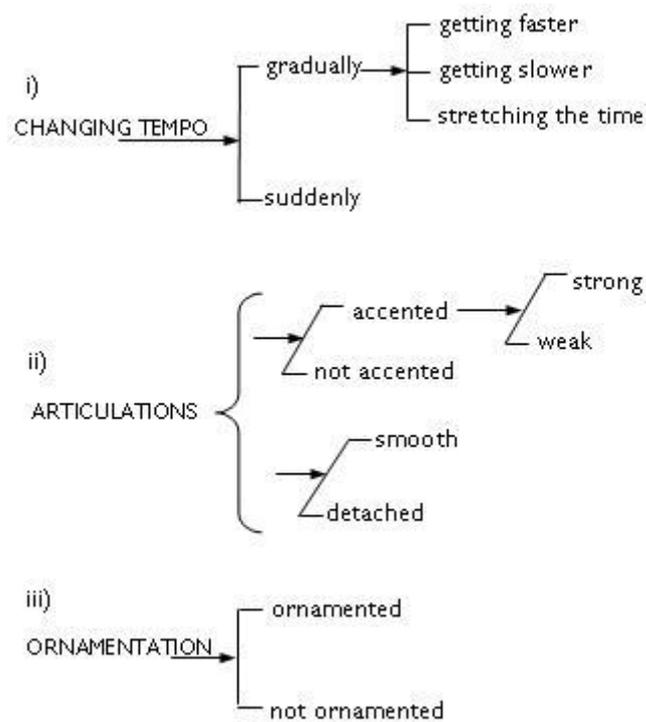


Figure B13: System networks for expressive techniques: CHANGING TEMPO, ARTICULATIONS, ORNAMENTATION

Table B9: Realisations of CHANGING TEMPO

Feature	Realisation
suddenly	tempo changes occur immediately from one note to the next: suddenly <i>subito</i> ; back to the former speed, <i>a tempo</i> ; suddenly slower, <i>ritenuto</i>
gradually	tempo (speed) changes gradually over a few notes or a few bars
getting faster	the speed becomes faster, <i>accelerando</i>
getting slower	the speed slows, <i>ritardando</i>
stretching the time	the speed changes a little for a few beats then reverts to normal; slight speeding and slowing for expressive purposes <i>rubato</i>

Table B10: Realisations of ARTICULATIONS

Feature	Realisation
accented	one or more notes are played louder, with more force than other notes to provide emphasis
strong accents	emphasis is strong; <i>sforzando</i>
weak accents	emphasis is weak; <i>tenuto</i>
not accented	notes are played with equal emphasis
smooth	the melodic phrase is played smoothly, with little or no gaps between each note, <i>legato</i>
detached	notes are played distinctly and each note is not held for its full value; <i>mezzo staccato</i> notes are played in a short and detached manner; <i>staccato</i>

Table B11: Realisations of ORNAMENTATION

Feature	Realisation
ornamented	ornaments are used in the melody (see taxonomy of ornamentation)
not ornamented	ornaments are not used in the melody (see of ornamentation)

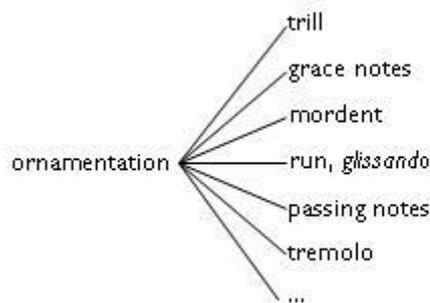


Figure B14: Taxonomies for expressive techniques

B.6. Tone colour

Tone colour tends to be a concept that students struggle to describe. Tone colour is one of the most abstract concepts because it describes the distinctive quality of a performing media, an aspect of meaning which can be quite subjective. In the syllabus, tone colour is described as “that aspect of sound that allows the listener to identify the sound source of combinations of sound sources”. There are three dot points to accompany this definition:

- sound source material
 - method of sound production
 - combination of sound sources.
- (Board of Studies NSW, 2009, p. 18)

The dot points are as follows:

- types of instruments and voices
- combinations of voices and instruments
- acoustic sounds
- electronic sounds
- synthesised sounds
- sound production methods
- traditional and non-traditional ways of using sound sources.

As these dot points are of different orders of abstraction, markers’ comments were consulted extensively to determine the kinds of meanings valued in successful examination answers about tone colour. The system SOUND QUALITY was adapted from *Speech, music, sound* (van Leeuwen, 1999, p. 151), with four of van Leeuwen’s parameters adopted and four new ones added, based on how students are required to refer to music. Two additional systems for tone colour refer to PERFORMING MEDIA and the COMBINATION of performing media, as required by the syllabus dot points. Two taxonomies have been developed to address other syllabus points: sound source materials and sound production methods. These are taxonomies, not systems, as they are material realisations of performing media (instruments or voices that create the sound) and the manner in which these performing media are played.

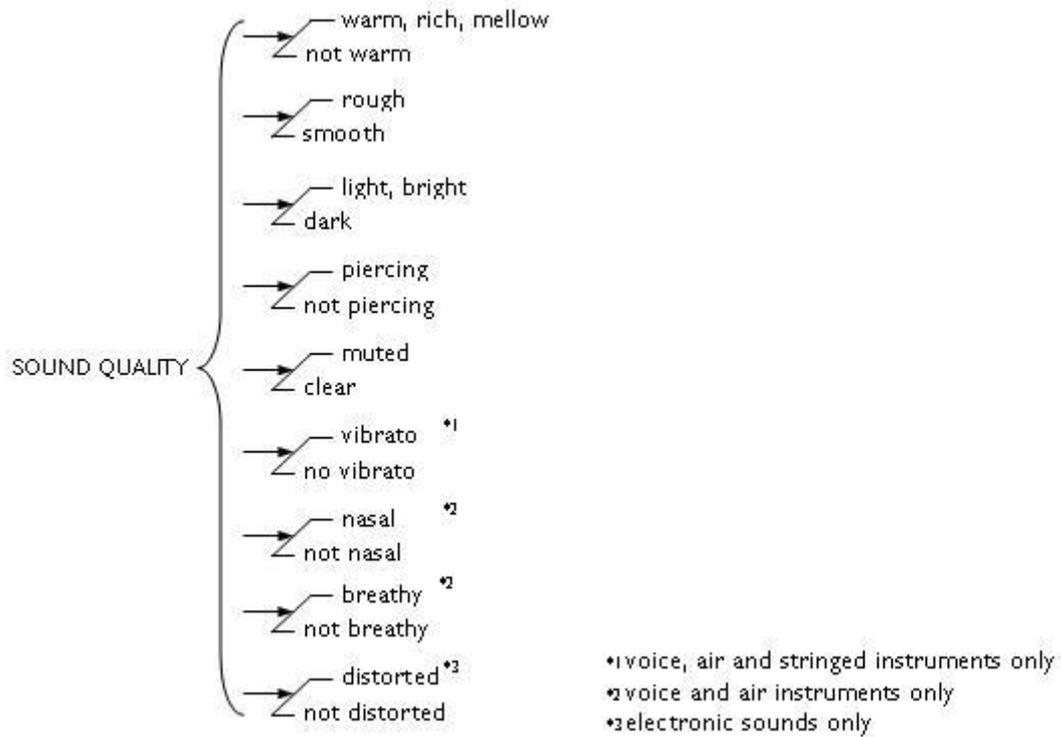


Figure B15: System networks for SOUND QUALITY

Table B12: Realisations of SOUND QUALITY

Feature	Realisation
warm, rich, mellow	Typical sounds of orchestral strings e.g. cello, low register woodwind instruments e.g. trombone, singing voices in low registers e.g. jazz singers
not warm	Sounds without the quality of warmth
rough	Typified by hoarse singing voices and shouting, enhanced by detached articulation of notes; also can be created through distortion effects on electronic instruments
smooth	Typified by relaxed vocal sounds and smooth articulation of notes
light, bright	Sounds in a high register with soft dynamics, such as high pitches on violins, flute or trumpet, or children's voices
dark	Sounds in a low register such as double bass, bass guitar, timpani or bassoon.
piercing	High pitched and penetrating sounds such as those created by piccolo, whistle or a wailing lead guitar.
not piercing	Sounds without a piercing quality
muted	Sounds that have been altered by using some kind of barrier in the production of the sound, such as a mute in a trumpet, making the sound seem more distant or indistinct.
clear	Sounds that do not have a mute
vibrato	A wavering or shaking effect adding expressive qualities, created by shaking a finger on a string or fluctuating air pressure.
no vibrato	Sounds without vibrato
nasal	Higher pitched and tense sounds produced with pressure in the performer's nasal area. The oboe's tone colour is typically described as nasal.
not nasal	Sounds without a nasal quality
breathy	Sounds produced using air that also contain breath sounds
not breathy	Sounds without additional breath sounds
distorted	Sounds created with interference, typically an electronic effects pedal or filter which alters the sound quality, such as an echo
not distorted	Plain or undistorted sounds

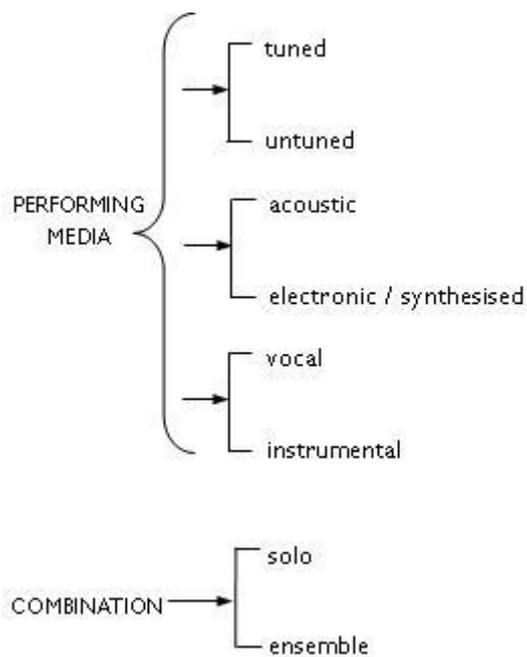


Figure B16: system networks for performing media and combination

Table B13: Realisations of PERFORMING MEDIA

Feature	Realisation
tuned	instrument has a discernible or definite pitch (see taxonomy of sound source material)
untuned	instrument has no discernible pitch (see taxonomy of sound source material)
acoustic	the natural or unadulterated sound of the instrument (see taxonomy of sound production methods)
electronic/synthesised	the sound of the instrument has been produced or altered using electronic or synthetic devices (see taxonomy of sound production methods)

Table B14: Realisation of COMBINATION

Feature	Realisation
solo	there is one performer
ensemble	the performance is created by more than one performing media (see taxonomy of ensemble types)

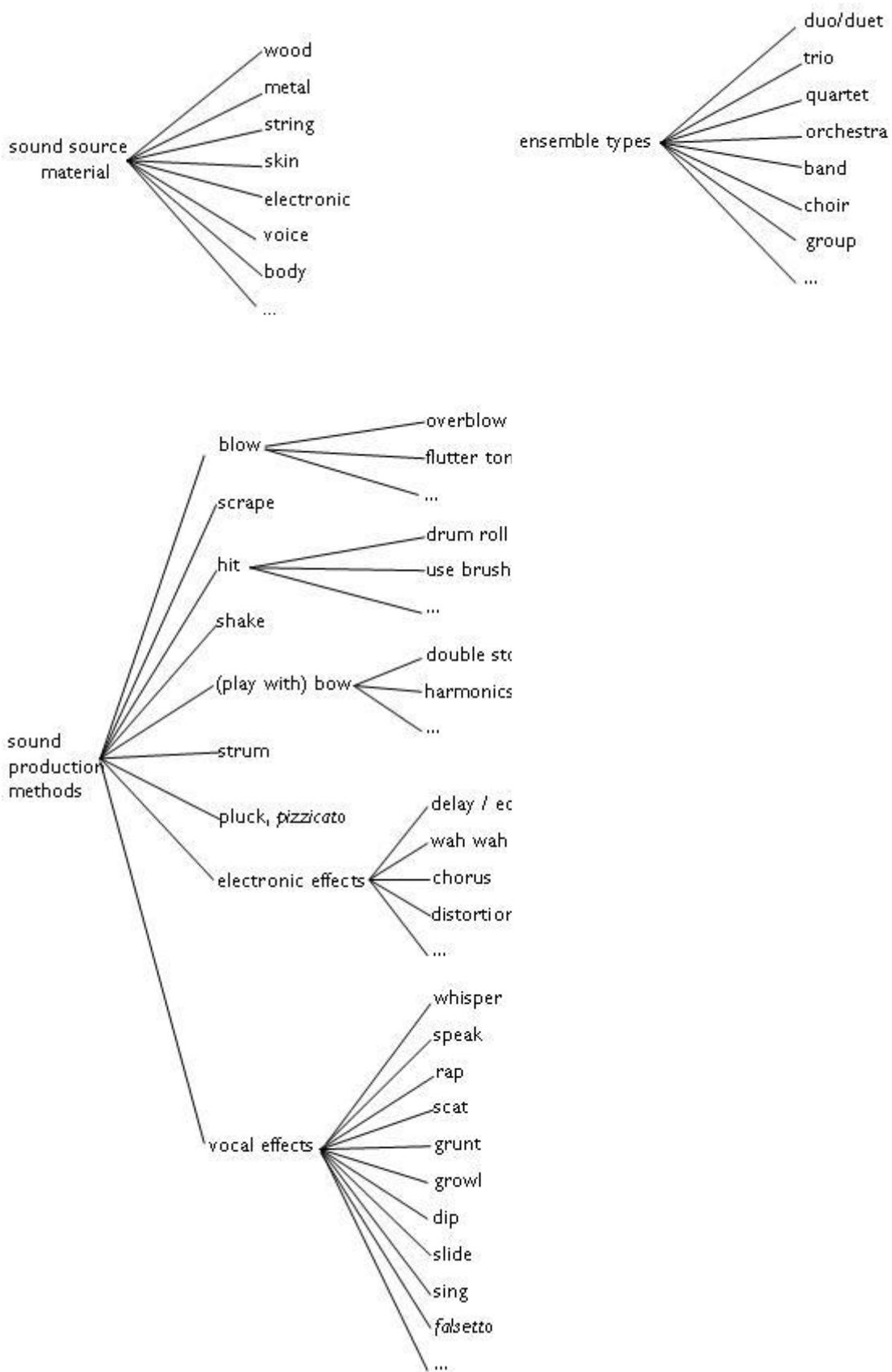


Figure B17: Taxonomies for tone colour

B.7 Texture

The section on texture is the shortest one in the syllabus – a definition and two dot points. The Board of Studies defines texture in terms of its causes: ‘Texture results from the way voices and /or instruments are combined in music.’ Two dot points follow this definition:

- the layers of sound and their function
 - the roles of instruments and/or voices
- (Board of Studies NSW, 2009, p. 18)

Three systems have been developed for texture, based on these dot points and the markers’ comments. The system of TEXTURE describes how many layers of sound are perceptible. The system of FUNCTION describes the role of one particular layer of sound in the ensemble as a whole. The third system, INTERACTION BETWEEN LAYERS, describes the interplay of different lines or layers of musical sound. In addition, four taxonomies show realisations of these systems.

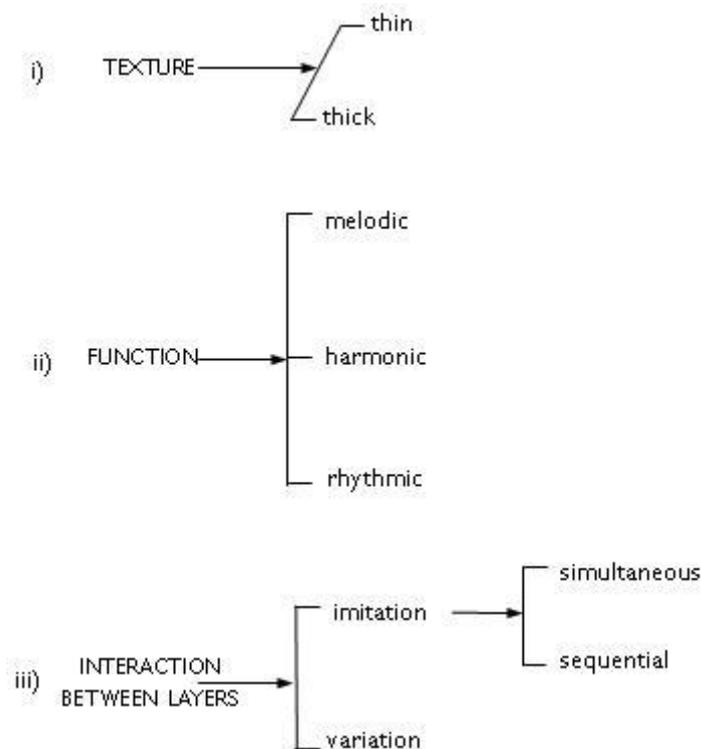


Figure B18: System networks for TEXTURE

Table B15: Realisations of TEXTURE

Feature	Realisation
thin	one layer of sound: <i>monophonic</i>
	two or a few layers of sound; melody and accompaniment <i>homophonic</i>
thick	many layers of sound: <i>polyphonic</i>

Table B16: Realisations of FUNCTION

Feature	Realisation
melodic	the layer of sound has a melodic function (see taxonomy of melodic roles)
harmonic	the layer of sound has a harmonic function (see taxonomy of harmonic roles)
rhythmic	the layer of sound has a rhythmic function (see taxonomy of rhythmic roles)

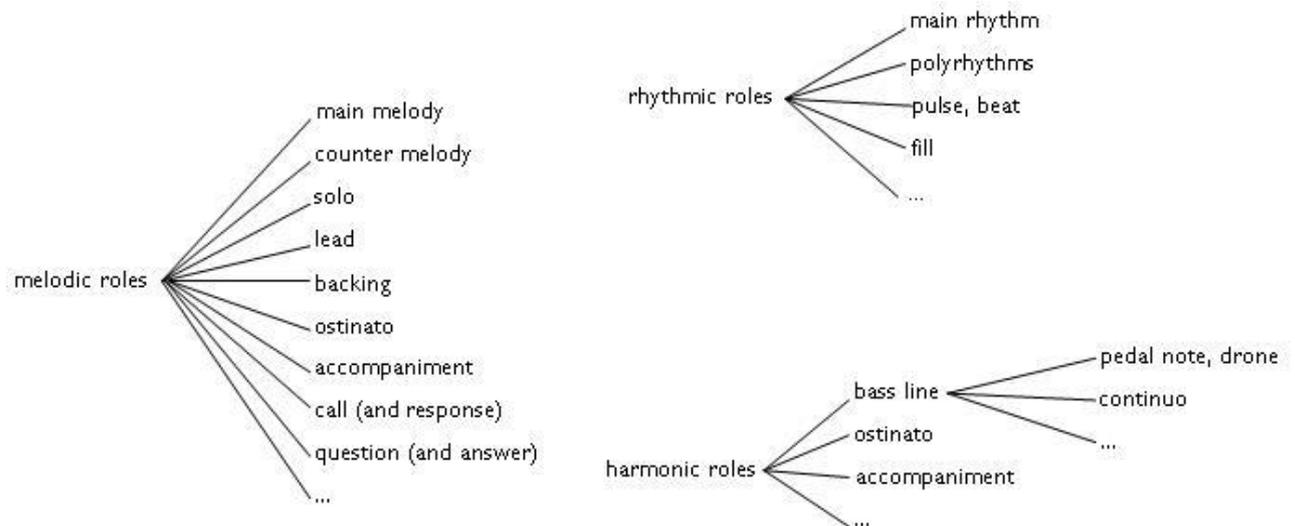


Figure B19: Taxonomies of FUNCTION

Table B17: Realisations of INTERACTION BETWEEN LAYERS

Feature	Realisation
imitation	different layers can play the same or similar musical material
simultaneous	layers can play similar material at the same time (see taxonomy of simultaneous imitating)
sequential	layers can play similar material one after the other (see taxonomy of sequential imitation)
variation	layers can play different musical material (see taxonomy of varying)

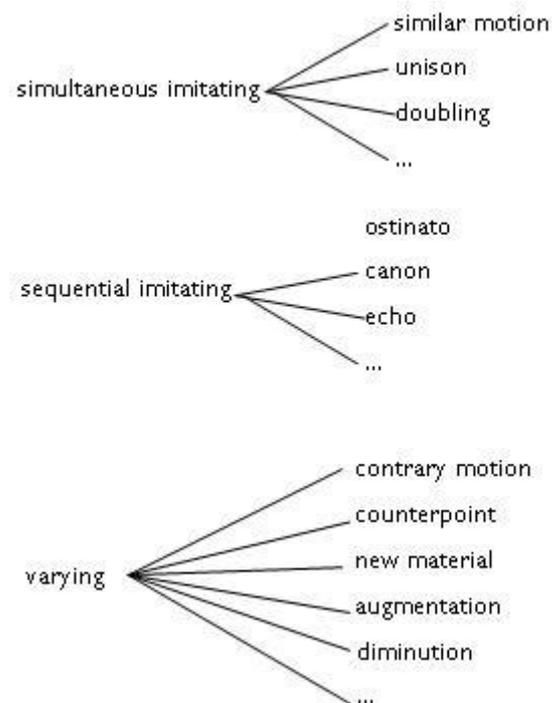


Figure B20: Taxonomies of INTERACTION BETWEEN LAYERS

B.8 Structure

According to the syllabus, structure:

... refers to the idea of design or form in music. In organising sound, the concepts of duration, dynamics, pitch and tone colour are combined in some way for a particular purpose. Structure relates to the ways in which music sounds the same (or similar) and/or different. (Board of Studies NSW, 2009, p. 19)

Dot points accompanying this definition classify broad categories for types of structures, some suggestion of shorter structural units and techniques for expanding musical ideas:

- phrases
- motifs
- riffs/repetitive patterns
- techniques of call and response/question and answer
- traditional and non-traditional patterns of musical structure
- structures used in world music
- structures used in single pieces of music
- multi-movement structures (eg symphony).

(Board of Studies NSW, 2009, p. 19)

System networks have not been developed for the concept of structure. Structure refers to the way concepts of music have been arranged according to musical time. These aspects of musical time have been arranged according to a rank scale of musical time.

Musical structure is a perspective on music that divides a larger work into sections. The smallest unit of musical time is a single beat or note, that Tagg (2013, p. 281) calls 'micro-duration'. The next rank of musical time is a 'meso-duration' that lasts a few seconds, equivalent to one or two bars or phrases. The largest unit of time relevant to the HSC examination is a 'mega-duration' of a few minutes, equivalent to one or more musical sections lasting a couple of minutes. There are larger durations known as 'macro-durations' for a symphonic movement, and 'giga-durations' for half an hour or more, such as an entire symphony (Tagg, 2013, p. 281). As the HSC Music examination includes excerpts that are around 90 seconds long, only micro-, meso- and mega-durations are relevant to the concept of structure.

Realisations of this rank scale are in three taxonomies based on the most common structures students are required to learn about in secondary school music. Figure B21 shows which taxonomies relate to particular rank scales of music. Not all rank scales have taxonomies, especially the smaller units of time.

rank scale	example of each rank	related taxonomy
giga	multi-movement work	taxonomy of multi-movement structures
macro	movement or piece	taxonomy of single movement structures
mega	section	
meso	phrase /bar / motif / figure	taxonomy of section and phrase structures
micro	note / beat	

Figure B21: Rank scale of musical structure and related taxonomies

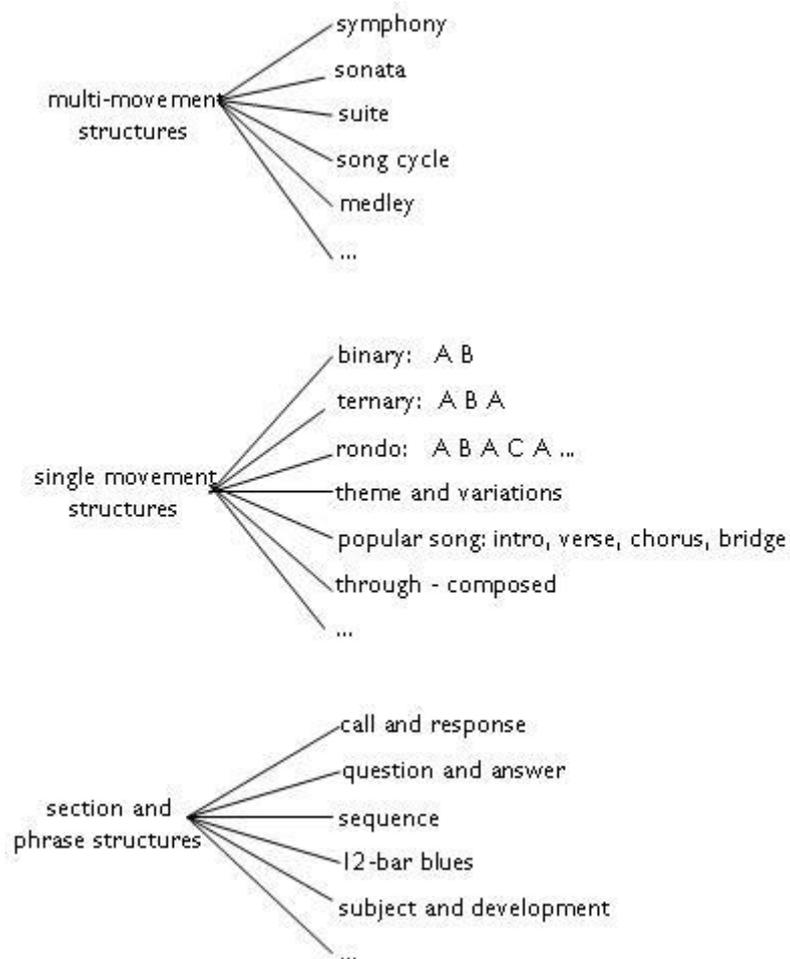


Figure B22: Taxonomies of structure

B.9 Performing media

Performing media are the instruments or voices that generate musical sounds. In the syllabus, performing media are mentioned as part of the concepts of tone colour and texture, and there is no description of which performing media students need to know. This research shows a taxonomy of instruments and two taxonomies for voice which are realisations of performing media.

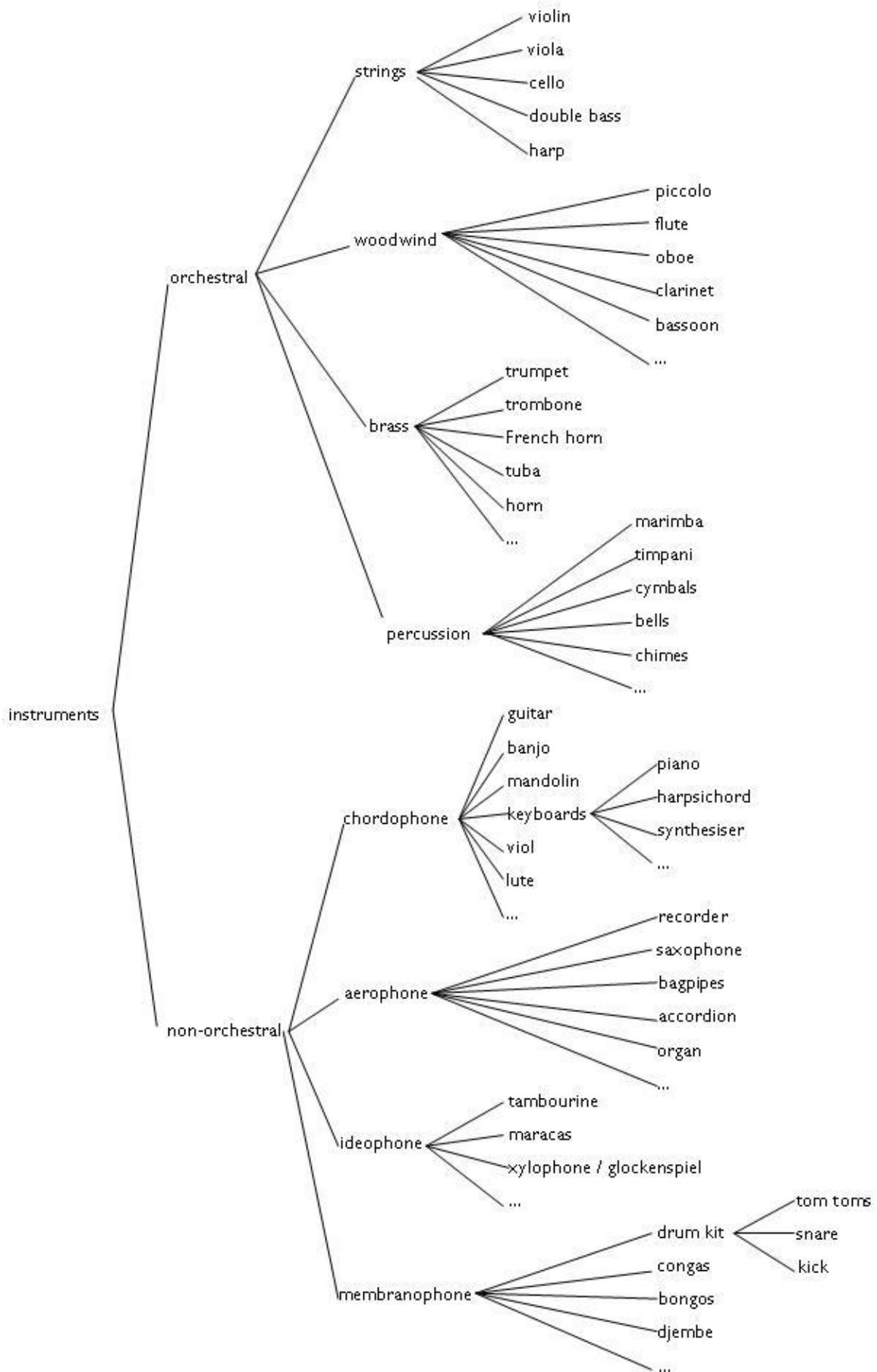


Figure B23: Taxonomy of instruments

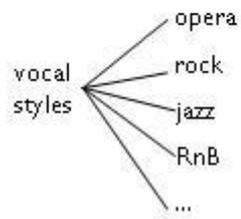
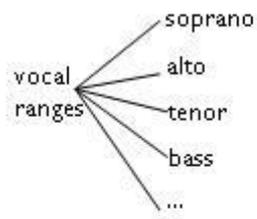


Figure B24: Taxonomies for voice

B.10 Principles of composition

There is one final system network, principles of composition. The syllabus refers to ‘unity, contrast etc’ in one of the dot points, however it is unclear how these relate to concepts of music, as shown below:

Students should develop skills in order to recognise, analyse and comment on:

- the concepts of music:
 - duration
 - pitch
 - dynamics and expressive techniques
 - tone colour
 - texture
 - structure
- the use of technology
- music of various cultures
- unity, contrast and style

(Board of Studies NSW, 2009, p. 21)

This research has classified ‘unity, contrast and style etc’ as principles of composition. As determined in discourse analysis, students can be required to answer questions about seven principles: unity, contrast, interest, repetition, variety, tension and climax. In order to understand how these relate to each other and to the concepts, two system networks have been developed. The system of SIMILARITY/DIFFERENCE concerns the way musical ideas can be arranged as a series of oppositions: same/different, unified/contrasting, repeating/varying. The other system is a scale of TENSION, which describes configurations of musical elements that build and release musical tension. In examination answers, students are only required to refer to these principles in a broad way with limited interpretive detail and no emotive language, as described in Chapter 4. As a consequence, realisations in this analysis are quite brief.

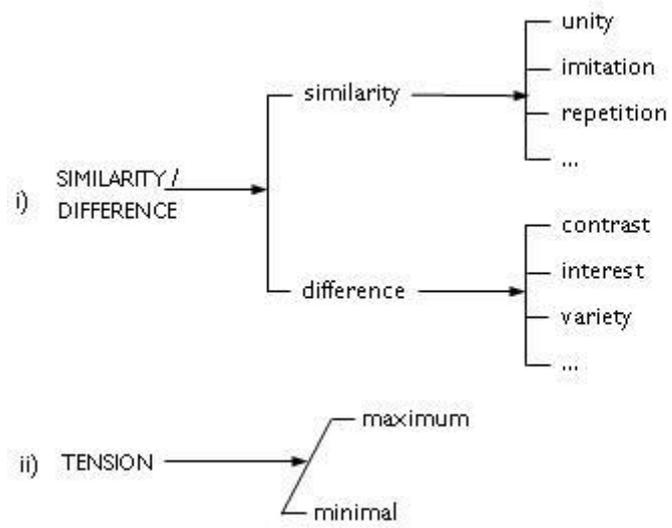


Figure B25: Systems of SIMILARITY / DIFFERENCE, TENSION

Table B18: Realisations of SIMILARITY AND DIFFERENCE

Feature	Realisation
similarity	where musical features in one section or in one layer of sound are the same or similar to features in another section
unity	a sense of wholeness or one-ness in a composition
imitation	where musical elements are copied
repetition	where musical elements are repeated
difference	where musical features in one section or in one layer of sound are different from features in another section
contrast	where musical elements are new or different
interest	where musical elements are new or salient in some way
variety	where musical elements are new or different in several ways

Table B19: Realisations of TENSION

Feature	Realisation
maximum	where the music builds in musical interest, often with a rise in volume, ultimately creating a point of maximum tension which is the climax of the piece
minimal	where the music is resolved, usually involving a return to the home tonality

Appendix C

The contents of Appendix C are relevant to discussion in Chapter 6 of the thesis.

Contents

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C.I Business Studies assessment task notice: Northern College

The notice for the first assessment task for Year 11 Business Studies at Northern College was actually 6 pages, including a self-evaluation form and instructions for submitting the assignment. The excerpts below are task instructions and marking criteria.

Year 11 Business Studies

Nature of Business

Assessment Task No: 1	Date Handed Out	Due Date	Weighting	Total Marks
Media File and Business Report	Monday, 4 February 2013 (Term 1, Week 2)	Monday, 18 March 2013 (Term 1, Week 8)	15%	30

CONTEXT FOR THE TASK

This task provides you with the opportunity to explore the role and nature of business in a changing business environment through research into different businesses and the contemporary issues facing businesses in Australia.

Your research findings will be presented in a media file and a business report format. A requirement of the HSC requires you to be able to present logical and well-structured responses using appropriate case studies.

OUTCOMES BEING ASSESSED

- | | |
|-----------|---|
| P2 | explains the internal and external influences on businesses |
| P7 | plans and conducts investigations into contemporary business issues |
| P9 | communicates business information and issues in appropriate formats |

IN ORDER TO UNDERTAKE THIS TASK YOU WILL NEED TO:

- Refer to your class and homework on the topic.
- Reflect on information and discussions undertaken in class.
- Use any time given to undertake guided research into aspects of the topics.
- Use the scaffolds provided in class to complete your activities.
- Use the computers effectively to obtain relevant information in order to complete the task.
- Include a correctly formatted bibliography and referencing of sources.

TASK RUBRIC

In your response you will be assessed on how well you:

- Demonstrate knowledge and understanding of how internal and external influences may impact on business
- Communicate using information from your media file
- Present a well-written and organised answer.

THE TASK

Scenario

The NSW government has set the growth and support of businesses in NSW as one of its priorities for this year. As a result of this initiative, the NSW Department of State and Regional Development has commissioned you to write a report on contemporary issues facing businesses in Australia and the impact of these on business opportunities in NSW.

Task

Part 1: Create a media file

10 marks

- (a) This file must contain 10 current articles collected from a range of sources such as newspapers, magazines, television, radio or the internet; each article must be about a different business and address contemporary issues influencing businesses in Australia.
- (b) For each article, summarise the key business issue(s) to demonstrate your understanding of contemporary business issues influencing business in Australia.
- (c) Each article must be referenced appropriately – source and date.

Part 2: Write a business report

20 marks

Using the articles and the relevant issues influencing businesses in Australia, write a business report of no more than 1,000 words for the NSW Department of State and Regional Development that responds to the following question:

Explain how internal and external influences may impact on business opportunities in NSW.

Note: In your business report, you must explicitly refer to the articles from your media file.

A business report template has been provided to you on HIVE which you may use to structure your response.

Definition of key terms

Summarise: Express, concisely, the relevant details

Explain: Relate cause and effect; make the relationships between things evident; explain why and/or how

MARKING GUIDELINES

Part 1: Create a media file

Criteria	Marks
<ul style="list-style-type: none"> • Selects relevant business articles from varied sources that address a range of contemporary business issues • Provides a clear summary for each article that demonstrates comprehensive understanding of contemporary business issues in Australia • Applies appropriate referencing for each article 	9 - 10
<ul style="list-style-type: none"> • Selects business articles from varied sources that address contemporary business issues • Provides a summary for each article that demonstrates a good understanding of contemporary business issues in Australia • Applies referencing for each article 	7 - 8
<ul style="list-style-type: none"> • Selects business articles from varied sources that address business issues • Provides a summary of the articles that demonstrates some understanding of contemporary business issues in Australia • Applies referencing for the articles 	5 - 6
<ul style="list-style-type: none"> • Selects limited articles that may address business issues • Provides a limited summary that demonstrates a basic understanding of business issues in Australia • May reference the articles 	3 - 4
<ul style="list-style-type: none"> • Limited articles and relevance to business • May provide a limited summary and demonstrates limited understanding of business issues • Little or no referencing of articles 	1 - 2

Part 2: Write a business report

Criteria	Marks
<ul style="list-style-type: none"> • Makes clearly evident how internal and external influences may impact on business opportunities in NSW • Communicates clearly in a business report using contemporary business issues from their articles • Presents a sustained, logical and cohesive response 	17 - 20
<ul style="list-style-type: none"> • Makes evident how internal and external influences may impact on businesses in NSW answer • Communicates in a business report using contemporary business issues from their articles • Presents a logical and cohesive response 	13 - 16
<ul style="list-style-type: none"> • Outlines how internal and external influences may impact on businesses • Communicates in a business report about businesses from their articles • Presents a structured response 	9 - 12
<ul style="list-style-type: none"> • Identifies some influences on businesses • Presents an basic response about businesses that may be in the form of a business report 	5 - 8
<ul style="list-style-type: none"> • May mention influences on businesses • Presents a limited response about businesses 	1 - 4

C.2 Business Studies lesson plans: Coast College

Lesson 1	
Teaching point	Steps
Understanding the exam question	<p>Modelling</p> <ol style="list-style-type: none"> 1. Explain 4 parts that can be in an exam question (scenario, proposition, instruction, scope) 2. Teacher analyses one exam question on the board showing the four parts <p>Joint Construction</p> <ol style="list-style-type: none"> 3. Teacher leads students to do one more exam question <p>Independent Construction</p> <ol style="list-style-type: none"> 4. Students analyse one exam question on their own. Teacher goes through answers and checks student worksheets.
Planning your answer	<p>Modelling/ Deconstruction</p> <ol style="list-style-type: none"> 1. Teacher explains how to plan an extended response based on a model question (from the previous activity) 2. Students analyse two examples of planning and evaluate strengths and weaknesses. They choose the best plan and explain why. 3. Teacher explains answer: <i>it is balanced, answers the question, uses headings.</i> <p>Joint construction</p> <ol style="list-style-type: none"> 4. Students work in pairs to plan a response for Question 4 on worksheet 5. Teacher moves around room checking answers and gathers student input for answer on board. <p>Independent construction</p> <ol style="list-style-type: none"> 6. If time, students create another plan independently (Q5)
Using business terminology	<p>Competition between groups of students for using business terminology. Students write as many business words as possible in a time limit, working in groups of 2 or 3.</p> <ol style="list-style-type: none"> 1. instead of money: e.g. cashflow, finances, expenditure, etc 2. instead of people: e.g. customers, business owners, target market etc.

Lesson 2	
Teaching point	Steps
Introduce topic area and syllabus content	<p>Building field Teacher introduces topic of Establishment options and reminds students of what they have learnt on this topic. Refer students to topic summary on page 8 of worksheet. Teacher introduces case studies that will be used for this lesson (in handout). Students read these and teacher discusses briefly with students.</p>
Making a point in Business Studies	<p>Modelling/ Deconstruction 1. (SPIN FX grid is written on board prior to lesson). Teacher explains SpinFX mnemonic. 2. Teacher does “think aloud” activity to fill in grid using syllabus point 1 in worksheet, explaining how it fits SPIN FX.</p> <p>Joint construction 3. Teacher leads students as they fill in the SPIN FX grid for syllabus point 2 4. Students work in pairs to fill in SPIN FX grid for syllabus point 3.</p> <p>Independent construction 5. Students work alone to fill in another table and write one paragraph based on syllabus point 4.</p>
Summary	Revise key features of successful Band 6 writing (on final page of handout)
	Students complete learning journal about what they learnt today

C.3 Business Studies student handout: Coast College

Business Studies – Band 6 Tips

Understanding the exam question

Information in Business Studies exam questions can be identified as one of these 4 parts:

1. **scenario**
2. **proposition**
3. **instruction**
4. **scope**

1. A **scenario** gives you a fictitious story about businesses, their problems and opportunities. It is not the main part of the question. You will need to refer to the scenario in your answer. Sometimes there will not be a scenario in the question. When you get a scenario, highlight the numbers and facts which are important.

Image of a human figure and
a question mark

*Images may not be
reproduced for copyright
reasons*

Fred and Sam own a fish and chip shop in their local shopping centre. Around half of their sales are from fresh fish which customers cook at home, and around half is for takeaway ready-to-eat fish and chips. The cost of selling takeaway fish and chips has risen 10% due to increased fish costs. Fred and Sam are worried about the effect of increased costs on their profitability.

2. The **proposition** is a statement you have to respond to, agree with or disagree with. The proposition may be in quotation marks. You are expected to refer to the proposition in your answer.

Business failure is due to people, not products.

3. The **instruction** is the VERB (the process). It is usually a HSC Directive Term. What is the activity you have to do? Include key words related to the verb.

Analyse why it is important for small business owners to have a detailed understanding of the market in which the business will be competing.
Discuss the advantages and disadvantages of a franchise.

4. The **scope** is the specific list of the content you have to include.

with reference to one case study, two case studies, one strategy, two strategies, three influences, one advantage etc.

Identify, circle or highlight the four parts in these questions. Remember a question will usually have a scenario OR a proposition, not both.

Question 1

Phillip and Janice worked in a bank, but had always wanted to run their own business. While on holiday in a small seaside town, they noticed that the local general store and takeaway food shop was up for sale. The business was the only one of its type in the town, but the town is very small and seems to have a reasonable large population only during summer and holiday periods when the local camping and caravan park and other holiday accommodation are all full. They are very interested in purchasing the store, but realise they have to make a number of important decisions before committing to making an actual offer on the store.

As a business consultant, prepare a report that could be given to Phillip and Janice. In your report, you should outline the possible advantages and disadvantages of buying the store.

Question 2

21 year old Luke has just inherited a large sum of money. With no business experience but loads of enthusiasm and energy, Luke wants to work in his own business. Recommend the most suitable establishment option for Luke.

Question 3

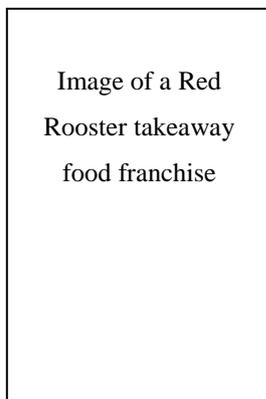
"Be in business for yourself, but not by yourself." Red Rooster

With reference to this quote and at least one case study, describe three advantages of owning a franchise.

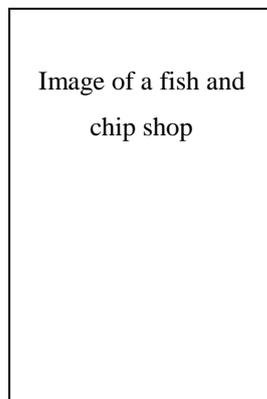
Question 4

These photos indicate three different establishment options:

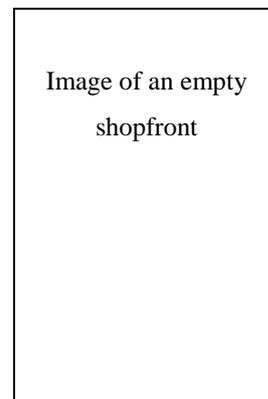
Option 1



Option 2

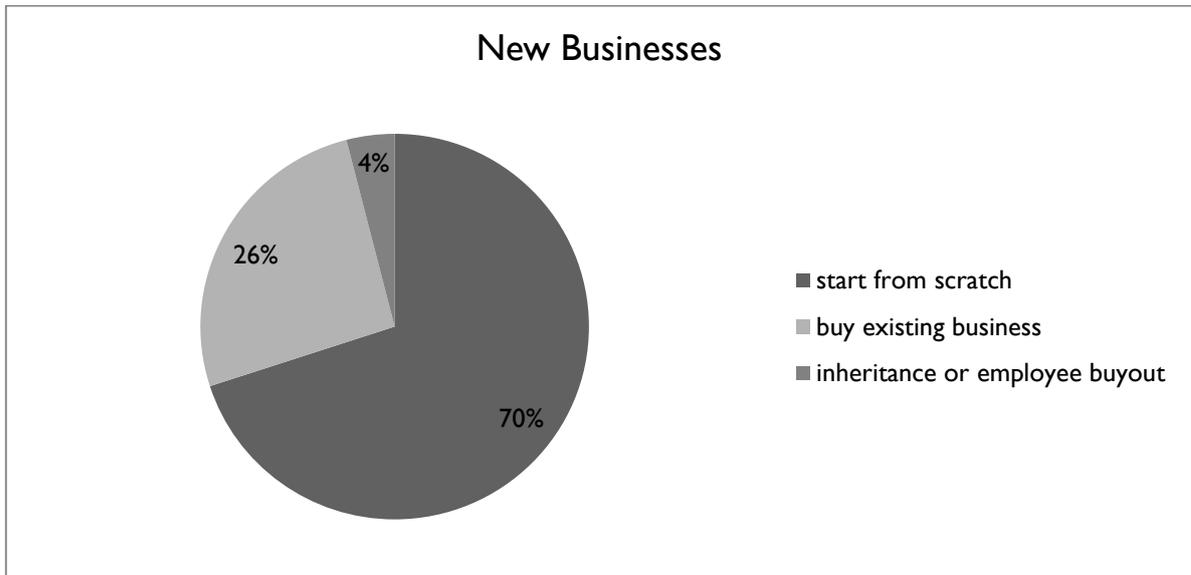


Option 3



Outline three risks involved in each option.

Question 5



This chart shows the proportions of new businesses and their method of starting up. What are the advantages and disadvantages of the most common methods of starting up a business? Refer to case studies in your answer.

Question 6

“When you buy a business, you get what you pay for.”

Use your knowledge of business establishment options to discuss this comment. Refer to case studies in your response.

Planning your answer

Rules for planning:

- Your answer should be around 800 words.
- Each part of the question needs its own section.
- Answer each part of the question with equal weight.
- Work out how much time you have to answer the question and allocate time to each part of the question.
- Case studies: maximum one paragraph of background information.

Here are 2 different plans for Question 1.

Question 4

These photos indicate three different establishment options:

<p>Option 1</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">Image of a Red Rooster takeaway food franchise</p> </div>	<p>Option 2</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">Image of a fish and chip shop</p> </div>	<p>Option 3</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">Image of an empty shopfront</p> </div>
--	---	---

a) Which establishment option does each picture represent?
b) Outline three risks involved in each option.

What are the pros and cons of each plan? Why?

Student 1	Student 2
<p style="text-align: center;">Introduction – 150 words</p> <p style="text-align: center;">Advantages of buying a franchise - 100 words</p> <p style="text-align: center;">Disadvantages of buying a franchise – 100 words</p> <p style="text-align: center;">Advantages and disadvantages of buying an established business – 200 words</p> <p style="text-align: center;">Advantages and disadvantages of starting from scratch – 50 words</p>	<p style="text-align: center;">Overview of different establishment options – 100 words</p> <p style="text-align: center;">Case study of a franchise – 200 words</p> <p style="text-align: center;">Case study of buying an established business – 200 words</p> <p style="text-align: center;">Case study of starting from scratch – 200 words</p> <p style="text-align: center;">Risks of the different establishment options – 100 words</p>

Handout p5

What is a better plan for answering this essay?

Section	Word count	Time

If you have one hour to write this answer in an exam situation, write down how long you should spend answering each part of the question.

Write a plan to answer Question 5

Section	Word count	Time

This page summarises the sub-points under the syllabus point : **Establishment Options**. There are three options and each of these has advantages and disadvantages. You can find these in your text book, Business Studies in Action (pages 358-363).

Establishment options

Establishment options means ways of going into business. There are two main ways: starting from scratch or buying an existing business. There are two types of existing businesses: a private business or a franchise. Each option has advantages and disadvantages.

Syllabus Sub-points	What does it mean?	Elements	Effects or results for business
Starting from scratch	starting a new business from nothing	Advantages	freedom and no boss; can be unique and creative
			can start on a small scale and control growth and change
			no goodwill to pay for
		Disadvantages	high risk
			may be hard to get finance
			may take a long time to build a customer base and generate profits
Buying an existing business	purchasing a business that is already operating; may include purchase of stock, equipment, premises and existing staff arrangements; may include goodwill	Advantages	existing customers mean instant income
			easier to obtain finance
			stock and equipment already acquired
			seller may offer advice and training
		Disadvantages	existing employees can help
			may inherit previous problems or hidden problems
			existing image and practices may be difficult to change
			have to pay for goodwill
Buying a franchise	for a set fee, the small business owner buys a recognized name and successful business formula	Advantages	no previous experience needed and training from franchisor
			investment risk may be lower
			equipment and premises well established
			well planned advertising
			volume buying is possible, meaning cheaper stock
		Disadvantages	franchisor controls many aspects of the business, not the franchisee
			cost of purchasing the franchise
			profits must be shared and service fees may be charged
			franchisee may feel like an employee not an owner
			franchisee also suffers if franchisor makes business mistakes

Case study 1: Madhu's Restaurant

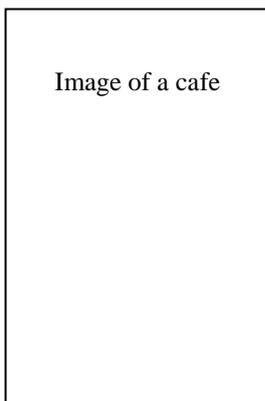
Starting from scratch



Madhu started a restaurant from scratch. The main reason was to give her scope for creativity, to create new dishes and not to have to answer to a boss. She wanted to be independent and generate her own income. She had difficulty getting finance to establish her restaurant. It took her 3 years to build a good customer base and generate good profits.

Case study 2: Urban Grooves Café

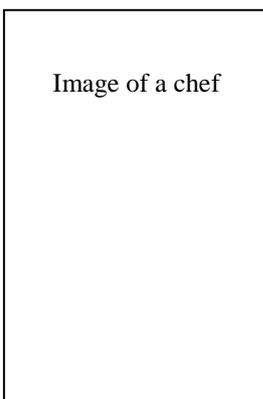
Buying an existing business



Matthew Faux was a chef who always wanted to operate his own small business. He bought a café in a good location opposite a Hoyts cinema in Melbourne, and transformed the business into a gourmet café and bar to capitalize on the movie-going crowd. By adding a bar to the café, he was able to attract more customers and create a successful business. Initially, he had problems with poor customer service from existing staff and he had to sack several staff members. It took more than a year to attract the right staff for his business.

Case study 3: Banjo's Café

Franchise



Mark Maumill and Jason Love won awards as Franchisees of the Year from the Franchise Council of Australia. The dynamic duo operate ten Banjo's Bakehouse Cafes' in Tasmania, Victoria and Queensland. Mark and Jason chose a franchise because they wanted a strong financial model and management support from the Banjo's Franchisors. They were able to capitalise on the Banjo cafe image and good reputation for quality Tasmanian produce, which led to high customer loyalty and good profits. Due to the high cost of purchasing the franchises, Mark and Jason had to manage their finances carefully so they could pay back the franchise fee and share profits with Banjo, while still keeping enough profit for themselves.

Making a point in Business Studies

In each paragraph, there are 4 stages.

SP	Syllabus Point or Sub Point	State the syllabus point from the syllabus. State the element from your text book that goes under the syllabus point.	
IN	In other words	State the Sub Point in other words. Useful starters are: <ul style="list-style-type: none"> • which means • meaning • This means You can start a new sentence or continue the previous sentence.	
F	Effect on the business	State how this will help the business reach its goals:	
		- limit/reduce costs minimise tax	+ increase profit increase revenue and cashflow; expand, grow
X	Example	Pick a case study example and work through the previous 3 sections. SP IN F	

Here is a simple way to remember the 4 elements.



F X

Here is an ideal paragraph from a Business Studies extended response on **Business Planning**. The syllabus point is **establishment options**. The sub-point is **starting from scratch - advantages**.

Starting from scratch

There are many advantages to starting from scratch. The owner has complete freedom and no boss, he or she can start small and can control growth. There is no goodwill to pay for. This means that the business can minimise costs in the start up phase. Madhu decided to start a business from scratch for her new restaurant. She wanted to be creative and create new dishes and not to have to answer to a boss. This gave her more independence and enabled her to control her costs.



F

X

	SP	IN	F
	Syllabus point Sub point	In other words	Effect on the business
	There are many advantages to starting from scratch.	The owner has complete freedom and no boss, he or she can start small and control growth. There is no goodwill to pay for.	This means that the business can minimise costs in the start up phase.
X Example	Madhu decided to start a business from scratch for her new restaurant.	She wanted to be creative and create new dishes and not to have to answer to a boss.	This gave her more independence and enabled her to control her costs.

Here is a paragraph under our heading: **Starting from Scratch - Disadvantages.**

There are some disadvantages of starting from scratch. New businesses can be high risk, it may be hard to get finance and it may take a long time to build a customer base and generate profits. Madhu experienced the disadvantages of starting her own business. She found it hard to get finance and it took her 3 years to build a regular customer base for her restaurant. This made it difficult to generate profits quickly.

Work out which parts of the paragraph belong under which headings and write them in the boxes below.



F

X

	SP	IN	F
	Syllabus point Sub point	In other words	Effect on the business
X	X Example		

Here is a paragraph under the heading: **Buying an existing business - advantages.**

There are advantages of buying an existing business. Existing customers mean instant income and it may be easier to obtain finance. Stock and equipment are already acquired and existing employees can help the new owner. This makes it easier to minimise costs down and maximise profits. Matthew Faux was a chef who bought the Urban Grooves Café in Melbourne. He bought the existing business because of its good location opposite a cinema. He was able to capitalize on the movie-going crowd and add a bar to the cafe to attract new customers. This led to increased profits for his business.

Work out which parts of the paragraph belong under which headings and write them in the boxes below.



F

X

	SP	IN	F
	Syllabus point Sub point	In other words	Effect on the business
X Example			

Now write your own paragraph based on **Existing business - disadvantages**. Use the syllabus summary page (page 8) and the Urban Grooves Café case study (page 9). Write your answer in the table below.



F

	SP Syllabus point Sub point	IN In other words	F Effect on the business
X X Example			

Here is a summary showing the features of a Band 6 response. You can use this as a rubric to mark your own work. You can place a tick in the column on the right to show whether a feature of the answer is found consistently, sometimes or not at all.

Assessment rubric

This is an assessment rubric based on the key features of high achieving Business Studies texts.

Criteria	Consistently	Sometimes	Not at all
Answers each part of the question with equal weight.			
Text is organised using <div style="text-align: center;"> Headings Paragraphs – clearly separated Topic sentences </div>			
Case studies support statements. Maximum one paragraph of background information about case study.			
Syllabus points are included. Write the number of syllabus points here: ____			
These stages appear in each paragraph: <div style="display: flex; flex-direction: column; gap: 10px;"> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 10px;">SP</div> <div> Syllabus point or Sub-point </div> </div> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 10px;">IN</div> <div>In other words</div> </div> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 10px;">F</div> <div> Further effect on business As a result the business was able to: <ul style="list-style-type: none"> • expand, grow, increase profits, increase cashflow • limit/reduce costs, minimise tax </div> </div> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 10px;">X</div> <div>Example – case study go through SPIN F again</div> </div> </div>			
Business terminology is used (not common sense words)			

Band 6 tips

1. Understand the parts of the exam question:

- scenario
- proposition
- instruction
- scope

2. Plan your answer:

Use headings for syllabus points

Write one paragraph for each sub-point

Answer each part of the question with equal weight

3. Plan your time:

In an exam, allocate an amount of time for each part of the response and stick to it.

4. Making a point:

Use SPIN FX for paragraphs in the body of your answer:

SP syllabus point or sub point

IN in other words

F effect on the business

X give an example (case study) and go through SPIN-F again

5. Use business terminology

C.4 Additional SPIN FX paragraphs created during the Business Studies intervention

	SP Syllabus Point	IN In other words	F Effect on the business
	Technology is a price/cost strategy for competitive advantage.	Technology reduces labour costs and improves efficiency	for higher profits.
X Example	IKEA uses technology as a price/cost strategy.	They have flat packages for their furniture and you can fit more packages into a truck	so this saves costs on transport.

Figure C.1: William's SPIN FX paragraph during Independent Construction

	SP Syllabus Point	IN In other words	F Effect on the business
	When you buy an existing business, existing employees can be resentful of change.	Poor employees give poor service	which decrease profits.
X Example	Urban Grooves had existing employees who gave poor service.	It took the owner a year to find the right employees to give better service	which decreased the profits of Urban Grooves.

Figure C.2: Carla's SPIN FX paragraph during Independent Construction

	SP Syllabus Point	IN In other words	F Effect on the business
	In an existing business, existing employees may be resentful of change	so they may give poor service	which has a bad effect on profits.
X Example	Urban Grooves had existing employees	and they gave poor service	so there were less profits for a year.

Figure C.3: Aaron's SPIN FX paragraph during Independent Construction

Making a point	<p>Modelling Teacher explains that successful answers Make a Point. Teacher shows the model for of how to make a point (on PowerPoint slide). Teacher also talks through an example.</p>		
	Time	Finding	Principle
	When?	Who/What does what?	Why?
	In Section A,	the oboe melody plays in a narrow pitch range	which creates contrast with the ending
<p>Joint construction</p>			
<p><u>Activity 1</u></p>			
<p>Students pick a structure from the first part of the lesson. They work in groups of 3 to make a point for one of the sections. Each student picks either:</p>			
<p>1. time 2. finding 3. principle</p>			
<p>Students write their part on a coloured piece of paper and stick them together to make a point. Each group reads theirs to class for teacher and student feedback.</p>			
<p>Independent construction</p>			
<p><u>Activity 2</u></p>			
<p>Individual activity. Students listen to an excerpt and write their own point. Students hand these in at the end of the lesson for review by researcher and teacher.</p>			
<p>Learning journal: Students fill in a brief journal entry about what they learnt in the lesson. Hand it in at the end of the lesson for review by researcher and teacher.</p>			

continued over

Teaching point	Lesson 2
<p>Create a diagram to support an answer</p>	<p>Teacher input - deconstruction Teacher draws one of each of these diagrams on the board and names them. 1) pitch contour 2) texture score 3) structure and Performing Media table (NB: This lesson will not include rhythm notation because it is only usually created by students with a background of music theory training.)</p> <p>Joint construction 1) Pitch contour – teacher demonstrates how it works on the board with an excerpts on CD. Take suggestions from students. Label it. 2) Texture line graph – demonstrate how it works with an excerpt from CD. Take suggestions from students. Label it. 3) Structure and performing media table – work out structure first and write performing media as labels on top, tick boxes. Take suggestions from students.</p> <p><u>Activity 1</u> Give each group a whiteboard. Each group chooses one diagram (pitch contour, texture line graph or structure and performing media table) Play an excerpt – students draw a picture. Show to each other – what’s good, what’s not good, which one is the best. why? How could we use labels to make it clearer? etc.</p> <p><u>Activity 2</u> Group activity. Students get their “point” from the previous lesson. Can you draw a diagram to represent this point? Students work in groups to try to draw a meaningful diagram for their point.</p> <p><u>Activity 3</u> Individual activity. Students listen to a new excerpt and draw a pitch contour, texture graph or structure and performing media table.</p> <p>Learning journal Students fill in a brief journal entry about what they learnt in the lesson. Hand it in at the end of the lesson for review by researcher and teacher.</p>
<p>Follow-up activity</p>	<p>Students complete one practice HSC exam. They have to practise all of the skills covered in the lessons:</p> <ul style="list-style-type: none"> • Structure the answer • Making a point • Use at least one diagram to support findings

C.6 Schedule of intervention lessons

This schedule shows the dates and timings of intervention lessons in 2011.

Teacher	Date of Lesson 1; lesson duration	Date of Lesson 2; lesson duration
Natalie	Tuesday, 26 th July; Period 1, 60 minutes	Wednesday, 27 th July; Period 1, 60 minutes
Dianne	Monday, 25 th July; Period 1, 60 minutes	Thursday, 28 th July; Period 1, 60 minutes
Tony	Monday, 22 nd August; Period 4, 60 minutes	Tuesday, 23 rd August; Period 1, 60 minutes
Brian	Monday, 22 nd August; Period 5, 60 minutes	-
Ava - class 1	Wednesday, 31 st August; Period 1, 60 minutes	Wednesday, 31 st August; Period 2, 60 minutes
Ava - class 2	Wednesday, 31 st August; Period 5, 60 minutes	Wednesday, 31 st August; Period 6, 60 minutes