Making meaning through History:
scaffolding students' conceptual understanding through dialogue

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VOLUME 1

Chapters 1-4

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Certificate

I certify that this thesis has not already been submitted for any degree and is not being submitted as part of candidature for any other degree.

I also certify that the thesis has been written by me, and that any help that I have received in preparing this thesis, and all sources used, have been acknowledged in this thesis.

Signature of Candidate

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Abstract

This study aims to articulate a theory of teaching that accounts for both the cognitive development of the learner and the social context in which learning occurs. It contributes to discussions about a socially constructed theory of pedagogy that can inform classroom practice.

It explores firstly the role of the teacher in supporting students' conceptual understanding and secondly the importance of dialogue as a means of apprenticing students into the discourse of a subject discipline. The sociocultural notion of "scaffolding" and the way in which various "scaffolding" strategies support students' learning are examined through the classroom data. This thesis also explores the classroom as a site of activity in which educational practice is enacted.

The significance of language as a 'tool' for learning is central to this study, as is the notion of learning as a social process. Language is a mediating tool that enables a dialogic engagement that supports the development of thinking that is consistent with the goals of the teacher. Also investigated is the use of various semiotic modalities, in addition to language, to support the active co-construction of knowledge.

The research is conducted in a Year 7 History class (the first year of high school) in an independent, secondary boys' high school using a case study approach. It uses observation in naturalistic settings, interviews and written documentation.

A significant outcome of this research has been the identification of discourse strategies and other semiotic systems such as visual, gestural and actional cues, and examination of the ways in which they function in the discourse to support student learning in the local and immediate context. The importance of all aspects that constitute the context in which the students are learning is also affirmed in this study. Context is not merely a 'backdrop' or background to language, it is integral to the creation of meaning and field knowledge.

Another major conclusion that can be drawn from this research is the distinction between scaffolding at a macro level, consisting of a planned, "designed-in" approach to a unit of work in a subject discipline and the lessons that constitute it, and contingent scaffolding that operates at a micro level or 'at the point of need'. By applying a variety

of linguistic tools drawing on Systemic Functional Linguistic theory, it has been possible to articulate the kinds of discourse and multimodal strategies that constitute the nature of scaffolding. A further finding in this research is the value of using detailed analysis of the data with different analytical tools to identify emerging patterns in the discourse and also to 'view' the same data through different 'lenses'.

An additional finding is the significance of an Induction genre that provides foundational understandings about the study of History for apprentice historians. This is supported by two post-foundational lessons that form a Macrogenre. This macrogenre reinforces the application of focus questions that are fundamental to historical study and an approach to answering these questions that is consistent with the methodology of the subject.

Another finding relates to the role the teacher adopts in the classroom. The classroom in this research is strongly teacher guided in terms of the development of content and ways of controlling the development of discourse. This research shows that this does not preclude the classroom from being dialogic. Even though there is a knowledge and status differential between the teacher as expert and the student as novice, the teacher provides opportunities for discussion and development of ideas about the topic.

Finally, this study confirms the value of drawing on a broad range of theories to inform the research. These multiple perspectives draw from sociocultural approaches to a socially oriented theory of learning; Activity Theory, and the notion of language as a social semiotic. This range of perspectives allows for 'rich' descriptions from which to draw conclusions about effective teaching and learning practices.

Some notes on style and terminology

The use of pronouns

In writing this thesis I have chosen to use 'I' when expressing a personal viewpoint or when referring to my own actions during the process of collecting the data. When making general statements about the process of researching, I have used the more generic term, 'the researcher'.

As the teacher in the study and students were all male, the pronoun 'he' is used when writing about the data. Again, when making statements relating to teaching and learning in general I have chosen to be gender inclusive and used either the plural 'they' or referred to both male and female as 's/he'.

Where 'he' is used within quotations to refer generically to both sexes, I have left the text in its original form, recognising that such usage needs to be interpreted within the conventions of an earlier period. I have chosen not to include the addition of *sic*, since this may risk becoming repetitive for the reader.

Inverted commas

Full quotations are enclosed by double inverted commas. Phrases attributed to specific authors are also appear with double inverted commas followed by the author and date, eg "semiotic apprenticeship" (Wells 1999). Single inverted commas are used to signify a particular construction or notion, for example, 'scaffolded' environment or colloquial language, such as: *the teacher chooses to 'up the ante'*.

Use of capitals

When a specific school subject is referred to it is capitalised, for example "History". When it is written in lower case, for example, history, it is being used in a non-specialised way.

Key terms such as Episode, Induction genre and Macrogenre are capitalised.

Lesson titles use only initial letter capitalisation, for example, *The pyjama mystery.*

Use of fonts

Italics are used consistently in the thesis to refer to extracts from the data. Italics are also used to mark Systemic Functional Linguistic terminology such as names of processes (eg *material*) or participants (eg *actor).*

Comic Sans MS is used when the text is written on the board eg Ancient Egypt.

Transcripts in the Appendices are written in Times New Roman. Underlining of text in the transcripts signifies the reading of written text.

Use of internet citations

At times a reference is made to a user group discussion on a specific topic. This is cited with the writer's name followed by the user group name and address, eg xmca @ weber.ucsd.edu, and the date on which the comment was made. They also appear as such in the Bibliography.

Notes on terminology

discourse

> In this study *discourse* refers to language in use for communication, not language as an abstract system. It consists of stretches of language perceived to be meaningful, unified, and purposive. The study of that which gives discourse its coherence is termed *discourse analysis.*

dialogue

> In its everyday usage dialogue means verbal interchange between individuals. This thesis draws extensively on the work of Mikhail Bakhtin who argues that even in discourse that is not overtly interactive, dialogue is to be found. Utterances do not occur in isolated acts, but are contextualized by the goals and conditions of the activity and the utterances that precede them.

Note details of Systemic Functional Linguistic terminology appear in Chapter 3.

The aim of education should be to teach us rather how to think, than what to think – rather to improve our minds, so as to enable us to think for ourselves, than to load the memory with the thoughts of other men.

John Dewey (1859-1952)

CHAPTER 1

Introduction: the nature of the teaching environment

To most truly teach, one must converse; to truly converse is to teach
(Tharp & Gallimore 1988, p.111).

Context for the research: the changing nature of education

The educational context in which this research is situated is influenced by a number of factors that have led to an increasing focus on pedagogic practices to support student learning. The first set of factors relates specifically to the Australian context. These include increased accountability for student achievement, interest in the challenges of 'middle years' education (Years 5-8), recognition of subject-specific literacy challenges and acknowledgment of the diversity of learners in schools. The other factor relates to a global phenomenon of the rapidly changing literacy challenges in technologically advanced societies.

Over the past decade the education of students from kindergarten to Year 12 has increasingly focussed on measurable assessment of student outcomes. This has been driven by both State and Federal government policy determined to make education sectors accountable for funding and to address commonly held community beliefs about falling student standards, particularly in the area of literacy. The solution to the perceived 'literacy crisis' was seen to be "curriculum reform, comparative national testing and benchmarking of literacy, numeracy and science achievement" (Richardson 1998). In New South Wales,

this assessment driven response to education took the form of externally marked tests. These are Basic Skills Test at Year 3 and Year 5 in literacy and numeracy, ELLA (literacy) and SNAP (numeracy) testing in Years 7 and 8 and there was also a major reform of the School Certificate Year 10 and Higher School Certificate Year 12. (These latter two are exiting credentials for completion of schooling.) External measures of student achievement have resulted in an increased interest in teaching approaches that support students to 'do well in the test'. While philosophically this relationship is not desirable, the end result is a sustained focus on teaching and learning to enhance student achievement.

Within this assessment-driven environment there has also been a focus on 'middle years' education (Years 5-8) with a recognition that the literacy needs of students need to continue to be addressed in an ongoing and explicit manner, even when students move from primary to secondary school. The NSW Department of School Education's Literacy Strategy for 1997-2001, with an emphasis on "teaching literacy skills in an explicit and systematic way" and "continuity in the development of each student's literacy skills through a planned, whole-school approach" (State Literacy Strategy, p.9), provided a policy aimed at focusing schools' attention on literacy development. Furthermore, there has been the recognition that individual subjects present specific literacy demands and it is the subject teacher who is the most appropriate person to deal with this. Again, the State Literacy Strategy has confirmed this view by stating that in recognising and addressing literacy needs of students; "teachers will need to have knowledge of the distinctive reading and writing demands of the various school subjects" (State Literacy Strategy, p.17). In addition to curriculum demands, an increase in the cultural and linguistic diversity of students, as well as increases in the number of students classified as socio-economically disadvantaged, has created a context in which educators are challenged to find ways to support the varying learning needs of students. All these factors have combined to produce a situation whereby research into the kinds of explicit teaching practices that provide a supportive and successful learning environment for all students is both timely and relevant.

Moreover, an examination of the classroom practices that support students' learning needs to be seen in the light of current views about the nature of teaching and learning. These views are posited within social-constructivist approaches that recognize the important role

of social and other contextual processes (van Lier 2000). These approaches include Bakhtin's dialogical view of language, Vygotsky's sociocultural theory, and various manifestations of ecological theory which take into account the situative context in which learning occurs (Neisser 1992). These views confirm the social nature of learning and primary role of teachers in providing a supportive environment in which learning can occur. Even in classrooms that are becoming more technologically oriented, with information being accessed via the internet and basic concepts and skills being taught via combinations of video and simulations, the importance of teachers in guiding the learning process is maintained. As Lemke (2002) argues:

> Technologies will not …be able to substitute for direct participation, nor will they be able to replace thoughtful guidance of students' critical reflection and analysis, nor the emotional encouragement of achievement and creativity that live teachers provide.
> (Lemke 2002, p.45)

Teachers still have an active role in everyday decision making about curriculum content and teaching approaches, and in fact, the demands for supporting students to learn how to learn are becoming increasingly important. The volume, reliability and currency of information that students need to engage with everyday from multiple, multimodal sources provide a whole set of new challenges for teachers. As well, traditional text formats have not been replaced in this technologically advanced age, but rather they maintain a complementary role to multimedia and electronic texts and are " being both co-opted and adapted in the evolution of our textual habitat" (Unsworth 2001, p.8). Therefore, as students engage in learning in the school curriculum they need to draw on not a single literacy but multiliteracies. These multiliteracies demand a sophisticated understanding of various forms of text, both traditional and emerging. They require students to engage with new knowledge and new ways of thinking (Christie 1990) so that they come to a "principled knowledge" (Edwards & Mercer 1987) that shows evidence of cognitive development.

As well as multiple literacies being differentiated on the basis of channel and medium of communication (print, image, page, screen) they can also be differentiated according to

subjects that vary significantly within lessons and across subject areas (Unsworth 2001). The language demands of History, the subject area in which this research is conducted, are discussed in Chapter 3. Furthermore, as already stated, literacy education has come to be recognized as being at the heart of effective curriculum development as students need to learn not only the content of their subject area but also an orientation to knowledge using particular written, spoken and symbolic forms in specific disciplines.

The technical language of the subject is one aspect of a subject but students also need to learn ways of thinking about, reading, writing and talking about different subject areas in ways that are compatible with the specific discourse of each subject area. Research has shown that subject areas have their own characteristic language forms and literate practices (Richards 1978; Applebee 1981; Street 1984; Davies and Green 1984; Gee 1990 cited in Unsworth 2000). In other words, students learn to think and talk as an historian or geographer or scientist. This understanding is critical as students move into secondary school, where there is the rapid compartmentalisation of subjects and school subjects that present on-going literacy demands throughout secondary school. Therefore, these emerging literacies and different subject literacy demands require the classroom teacher to develop a pedagogy that both enculturates students into the literacy practices of the subject and at the same time empowers students to be independent learners who can adapt to the ever-changing environment in which we live. The teaching practices that contribute to this kind of pedagogy are discussed in chapters 4 and 5.

In New South Wales, since the early 1990s, a literacy-based pedagogy that draws largely on sociocultural theories of language has dominated teaching practices. In all government schools and the majority of non-government schools, literacy initiatives are based on the NSW Board of Studies English K-6 syllabus. This syllabus is based on a functional view of language which emphasizes how meaning is made in different social and cultural contexts, and which provides students with a metalanguage to talk about how language is being used in the construction of various text types. Its theoretical base is drawn from Systemic Functional Linguistics, developed by Halliday and others, which "contributes a resource for developing students' awareness both of the fundamentally social nature of the literate practices they are engaged in and of how they are socially positioned by these practices"

(Unsworth 2000, p.245). A detailed description of this approach and its theoretical basis is presented in Chapter 2 as this theory of language forms one of the principle theories upon which this thesis is based.

Also, while it is generally agreed among educators that student learning outcomes have improved with the focus on a literacy-based pedagogy, a broader theoretical base drawing from other disciplines such as cognitive psychology, sociology and cultural-historical activity theory (Activity Theory) provides an additional dimension to studies of how students learn within a particular social context. This research has drawn from other such disciplines and these are discussed in Chapter 2. A crossdisciplinary approach to pedagogic theory therefore can inform teaching practice, so that students are equipped to become resilient learners who can successfully negotiate learning in this intellectually demanding and rapidly changing information age.

Specific areas of research

Research focus

The purpose of this research is to explore two critical, related areas in educational practice. The first focus is on the role of the teacher in facilitating conceptual understanding and higher order thinking of students. Specifically, this thesis explores a number of aspects in investigating the teacher's role. First is the identification of the strategies the teacher employs to 'scaffold' student learning. 'Scaffolding' is an important notion in sociocultural theory (discussed in detail in Chapter 2) and one of the objects of this research is to 'unpack' what this term means in a classroom context. Second are the ways in which students develop understanding as evidenced in the move from everyday language to abstract/generalized language that reflects higher order thinking and conceptual development. Finally, this thesis investigates the use of various semiotic modalities, in addition to language, which support the active co-construction of knowledge.

The second area of investigation is the way in which the process of education is mediated by discourse, and in particular how the discourses of classroom instruction in part constitute environments for learning, and how learners appropriate these discourses. Two aspects are investigated in exploring this area. One is the way in which the teacher and

students collaborate actively to co-construct knowledge. The other involves the ways in which students are successfully socialized or acculturated into the practices of a particular subject discipline. Within this context, the classroom as a site of activity for the enactment of educational practice is also explored.

The theoretical basis

In analysing and attempting to synthesize theories from different social sciences I assert the unifying phenomenon is language. Language mediates meaning in the two main areas explored in this research that consider a socially oriented theory of learning and the classroom as a site of activity. Meaning is constructed in the classroom through various 'scaffolding' strategies that operate at both the macro and micro levels. The macro level involves the overall design of the unit of work to achieve specific outcomes including the sequence of tasks within each lesson and types of resources to be utilized. It takes account of the teacher's goals; understanding of the language demands of the planned tasks; knowledge of students' current abilities, understanding and interest; sequencing of tasks to achieve the outcomes and planning for "handover" (Bruner 1983), that is, "the gradual but constant shift of responsibility for task completing from teacher to student" (Dansie 2001,p.50). I have termed the macro level planning "designed-in" scaffolding (Sharpe 2001). The micro level or "micro-structure" (Wells 2002) refers to the moment by moment interactions within the lesson between the teacher and students and students with each other. This type of scaffolding at the 'point of need' consists of the opportunities afforded the teacher to support the students' understanding of the task or topic through a variety of discourse strategies such as questioning, recasting or relating to students' previous experiences. These are described in detail in Chapters 4 and 5. Students can also support each other through utilising the same types of discourse strategies. This type of scaffolding is referred to as "responsive contingency" (Wells 2000) or "interactive contingency" (Hammond et al. 2003). Scaffolding strategies, both "designed-in" and contingent are based largely on language in its various modes. In interpreting these strategies I have drawn on sociocultural theories of learning, Activity Theory and a model of language as a social semiotic. The significance of language to each of these perspectives is shown below.

Detailed discussion of each of these theories and their relevance for this research is discussed in Chapter 2.

Sociocultural theories of learning

In Vygotsky's theory of learning, the role of language is primarily social, "the primary function of speech, both for the adult and for the child, is the function of communication, social contact, influencing surrounding individuals" (Vygotsky, 1978, p.45) and within the social environment language becomes a critical 'tool' for learning. He proposes that language and thought are combined to create a cognitive 'tool' for human development such that "students solve practical tasks with the help of their speech as well as their eyes and hands" (1978, p.26) and that artifacts mediate activity, and language, as a socially constructed artifact, is the most versatile artifact.

Cultural-historical Activity Theory (Activity Theory)

In Activity Theory language is seen as an artifact, probably the most extensive and flexible of all. It is defined as "a material object that has been modified by human beings as a means of regulating their interactions with the world and each other" (Cole 1999, p.90).

Language as a social semiotic

In Halliday's theory of language as a social semiotic, language is social and relates "primarily to one particular aspect of human experience, namely that of social structure... [and] learning is, above all, a social process; and the environment in which educational learning takes place is that of a social institution…Knowledge is transmitted in social contexts, through relationships…and the words that are exchanged in these contexts get their meaning from activities in which they are embedded, which again are social activities with social agencies and goals" (Halliday1985, p.4-5).

The significance of language as a 'tool' for learning is therefore central to this research, as is the notion of learning as a social process. Indeed, according to a sociocultural perspective

on intellectual development, learning is essentially a social and communicative process in which learners learn from others as they engage in interactions and joint activities. Language is the "cultural toolkit for joint intellectual activity" (Mercer 2002, p.10) that acculturates students into the ways of thinking and speaking of the group to which the student is aspiring. It is a mediating tool that enables a dialogic engagement that supports the development of thinking that is consistent with the goals of the teacher. Dialogue that occurs in jointly negotiated activity leads to an increase in individuals as well as collective understanding, and this affords the opportunity for each participant to appropriate new ways of doing, speaking, and thinking. The mediational resources that they can draw on, both in the present and their future activities, are thus dependant upon language (Mercer 2000).

Furthermore, by drawing on both Activity Theory and Systemic Functional Linguistics (SFL), "two approaches to the study of social activity and the role of language in mediating that activity that are compatible" (Wells 1999, p.176-7), it is possible to research not only the level of wordings (lexico-grammar) in the discourse but also the social context of the activity. As Wells states:

> Bringing these two seminal ideas together, we can characterize discourse as the collaborative behaviour of two or more participants as they use the meaning potential of a shared language to mediate the establishment and achievement of their goals in social action.
> (Wells 1999, p.174)

The classroom context

The context for this research is a Year 7 History class (the first year of high school) in an independent, secondary boys' high school in Sydney, Australia. The class consists of 25 boys who are streamed into the 'top' class. Students study History for three 50 minute lessons a week for two terms (approximately 20 weeks). They then change to Geography for the remainder of the year. The History teacher repeats the same units to a second class who have just completed the Geography component of the syllabus during the first two terms of the year.

The teacher, referred to in the study as JT, plans the content of his subject in the light of the mandatory syllabus demands of the Stage 4 NSW History syllabus. Details of the Syllabus rationale and Course Performance Descriptors are provided in Chapter 3, Part 2: context for the research. Students have not previously studied History as a discrete subject. In primary schools historical study is integrated within a social studies focussed area of study known as Human Society and its Environment. Therefore a significant challenge for the secondary classroom teacher is how to support students to move from the "everyday cultural domain" where learning occurs through participation, to the "specialized cultural domain dominated by mainstream educational discourses" (Macken-Horarik 1994).

> In the domain of specialized learning, students have to assimilate and reproduce the contents of knowledge as they learn to make meanings explicit: to read and write texts which build up all information necessary to their interpretation.
> (Macken-Horarik 1994, p.238)

The secondary teacher also has the responsibility for helping students engage with the reflexive cultural domain that assists students to negotiate social diversity and competing discourses. "The success with which their learners can engage in analysis, discussion and critique will depend on how well they have engaged with the field as a specialized domain in the first place" (Mackin-Horarik 1994, p.249).

Summary of methodology

This research was conducted using qualitative research methods, which are "concerned with identifying the presence or absence of something and with determining its nature" (Watson-Gegeo 1988, p.576). The study of students in the classroom as human beings who play an active role in creating, interpreting and recreating their social world became popular in the late 1960s. Prior to this time, classroom research focused only on the 'macro' level of education relating to 'input' and 'output' characteristics of education systems such as the relation between students' social class backgrounds and later levels of achievement and occupation.

Ethnography, a research method originally used by anthropologists to describe and understand other cultures, was adopted by researchers interested in educational contexts. Mercer & Edwards (1987) say of its application to the area of classroom discourse:

> [It] requires researchers to make detailed observations of what is said and done, and, more problematically, to suspend their own 'commonsense' interpretations of what is going on when making an analysis.
> (Mercer &Edwards 1987, p.15)

This research uses a case study approach with the data collection occurring within the natural school environment. It uses observation in naturalistic settings, interviews and written documents that are "natural approaches to generating data in areas such as anthropology, certain branches of sociology and ethnography" (Saljo 1988, p.39). The data is not analyzed according to precategorized criteria determined by the researcher.

The case study approach has been presented as "the prime strategy for developing educational theory which illuminates educational policy and enhances educational practice" (Bassey 1999, p.3). It is a preferred research strategy when the focus questions about *how, why* and *what* are being asked, when the researcher has little control over the event or when the research is being carried out in a real life context (Burns 1990; Yin 1988). In the classroom setting all these factors exist. In addition, this research draws not only on detailed observations from video transcriptions and field notes, but also detailed linguistic analyses of almost 2,500 clauses drawn from 9 transcribed lessons. These various research tools support the observations made and conclusions drawn. Chapter 3 describes this methodology in detail.

Relevance and contribution of this research

By relating new learnings gleaned from this research to classroom pedagogy, further theoretical insights can be gained into specific classroom practices that firstly 'scaffold' students' learning, and secondly reinforce the importance of dialogue in the learning process. Both the insights gained and the identification of supportive 'scaffolding practices' that can be applied in all classrooms have implications for informing pedagogic practice in

both professional development courses with practising teachers and educators as well as teachers and academics in pre and post service teacher training institutions.

This research makes a number of contributions to pedagogical theory. Firstly, it demonstrates the value of drawing on compatible and powerful theories from different disciplines: psychology, linguistics, sociology and education, to theorize teaching and learning. This research both acknowledges the multifaceted nature of teaching and learning and the interrelationship of the various elements that constitute the activity of education, and recognizes the centrality of dialogue in the learning process.

To date, no single theory is able to account for all the elements that constitute effective teaching and since learning is not a unitary construct, theorising pedagogy as a unitary construct is misleading (Kirshner 2002). Different nuances of learning are explicated through different theories. For example an approach to learning that is primarily behaviourist (skills focused), enculturationist (apprenticing focus) or constructivist (developing concepts focus) will result in different classroom practices. I suggest that teachers can and should draw on multiple theories to support their understanding of how learning in the classroom is developing, although it needs to be acknowledged that this creates complexity in the planning as teachers juggle and balance teaching priorities.

In my data, the History teacher's primary goal is to support students in developing concepts, knowledge and skills of the subject and this informs his practice. At the same time he is also 'unconsciously' enculturating students into the discourse of History which becomes an incidental outcome of the lessons. Kirshner (2002) refers to this kind of learning as "inadvertent learning" which is "learning that might be anticipated to happen in an instructional setting but for which the teacher does not take direct responsibility in instructional planning" (Kirshner 2002, p.9). So while attending to one goal, conceptual development, the teacher gains learning benefits in the other domain of apprenticeship, the discourse of the subject. However, if the teacher wishes to address instruction to both conceptual development and enculturation simultaneously, the divergent nature of these pedagogical enterprizes means it is inevitable that one goal will have to be subordinated to the other at certain points in the unfolding lesson (Kirshner 2002a).

Thus the multidimensional nature of learning (which draws on different theories of learning) means teachers need to inform their pedagogic practice by looking to a range of theories and make decisions as to which approach or approaches best fits the particular learning goal. In so doing they are "walking the pedagogical tightrope" (Wood, Cobb and Yackel 1995, p.421) to best meet the needs of their students. In this research I have identified JT's pedagogical approaches to developing students' conceptual understanding and enculturating them into the discipline of History by drawing on three major theories (previously discussed) situated within a sociocultural approach to learning.

Secondly, this thesis explores the notion of "designed-in" scaffolding for planning units of work and also introduces the notion of an Induction genre that provides the foundational understandings of the key principles of the subject discipline.

The identification of an Induction genre is determined by using the resources of linguistic analysis to demonstrate the ways in which foundational understandings, crucial to the methodology of the subject, are established through the content. I further suggest that the foundational knowledge established in the Induction genre is reinforced through a Macrogenre (after Christie 1993), that is, introductory lessons to a topic that mirror the methodological process undertaken in the induction lessons. Students in the first year of high school have no previously formalized understanding of the study of subject disciplines and their methodological approaches and therefore the teacher needs to construct both knowledge and skills initially in the foundational lessons (Induction genre) then consolidating these in the post-foundational lessons (Macrogenre). In the lessons that follow, teachers continue to build on students' shared understanding of the nature of the specific subject.

Thirdly, this thesis offers a metalanguage for describing, in discourse terms, particular "scaffolding" strategies that are appropriate in specific learning contexts. Various discourse strategies are named and discussed in relation to the ways in which these strategies contribute to students' learning. By articulating these supportive discourse strategies it becomes possible to describe effective teaching practices in much more specific ways than has occurred to date.

A further contribution to the articulation of the nature of 'scaffolding' is the identification of strategies from other semiotic systems such as visual, gestural and actional cues that combine with discourse strategies to construct meaning. These multimodal strategies are examined for the ways in which they function in the discourse to support student learning in the local and immediate context.

Also, for dealing with large amounts of data so that patterns can be noted, I have developed a way to gain an overall view of the content of the data that shows how ideas unfold in the lesson, both in terms of what words are introduced and also the relationship between words. This is achieved through a summary page of lexical strings divided into Episodes on the vertical axis with key words in the lexical string across the top horizontal axis. The number of times each word appears is counted and placed in the box relevant to the Episode. The evolution of the topics in the lesson can be clearly seen through this summary page. This mapping page assists the researcher by providing a management tool for dealing with large amounts of data.

Finally, the research suggests the futility of an 'either/or' approach to transmission versus inquiry-based learning. This view is consistent with sociocultural perspectives on learning that does not make a distinction between the transmission of culture and the ability of an individual to have a role in their own creative development, rather they show the relationship between them (Bruner 1986; Edwards & Mercer 1987). Through the data it is demonstrated that both can contribute to successful teaching practice because they operate at different stages within a curriculum cycle, along a continuum that moves towards one or the other approach depending on the stage of the teaching cycle. Typically, in the early stages of a lesson, information is provided using the traditional transmission approach. A more inquiry-based approach usually follows with students engaged in pair or group work activities that apply the information to a task. This constitutes a "handover" stage, (described earlier). Previous learning is then recapped through student contributions based on their experience gained through the various activities, thus resulting in a shared understanding.

While a purely transmission approach to learning "that derive[s] from another time, another interpretation of culture, another conception of authority" (Bruner 1986, p.123) is a

pedagogy that focuses on transfer of information, a purely inquiry-based approach to learning is equally problematic. An inquiry-based approach, characterized by dialogue between teacher and students as they co-construct meaning in relation to tasks and topics that are of mutual interest and concern although the ideal, is not always practical (Wells 1995a). This research supports the notion that both approaches have a valid place in curriculum planning. Transmission education is appropriate at certain stages in a teaching and learning cycle, but must not be the sole pedagogical approach taken. An inquiry-based curriculum challenges students with questions that are real and personally significant and amenable to investigation in a worthwhile manner with the available resources and as such is consistent with a view that learning in most settings is a communal activity, a sharing of culture (Bruner 1986). In other words, both approaches have validity in the classroom context.

Structure of the thesis

In this thesis the theoretical foundations that have informed this research are discussed in Chapter 2. By drawing on theoretical perspectives of learning and language from a number of different disciplines: socio-cognitive psychology, sociology, education and linguistics, insights can be gained about the cognitive development of students, the social context in which learning occurs and the mediating role language plays in learning. These perspectives provide the 'cornerstones' upon which this thesis is built.

Chapter 3 discusses the methodological approach taken in this thesis. Qualitative research methodology conducted within a 'natural' classroom context using a case study approach is the approach adopted. This type of approach induces a theory from observation and derives meaning from the participants of the study rather than starting from a preconceived framework. The chapter establishes the curriculum and classroom contexts and details a description of the language model used and types of analysis of the data undertaken in the study.

Chapters 4 and 5 form the major findings of this thesis in which "conceptual hooks" that summarize key concepts are identified and a linguistic description of contingency in action is articulated. These chapters address the ways in which the classroom teacher supports the

development of students' conceptual understanding and in so doing how his students are enculturated into the practices of thinking like an historian. Chapter 4 introduces the notion of "designed-in" scaffolding through an Induction genre and Macrogenre. Various discourse 'scaffolding' strategies are identified that demonstrate the teacher acting contingently to support student understanding. Chapter 5 focuses on the Macrogenre lessons for further investigation of the teacher's questioning patterns and excerpts from additional lessons in the unit are used to discuss the additional discourse strategies and use of visual, gestural and actional semiotic systems to reinforce learning.

Finally, Chapter 6 provides a summary of the research, reflects on key findings and considers implications for educational practice.

Implications for this study: informing practice

This research contributes to an understanding of the pedagogic practices that support learning. By focusing on a specific classroom and examining in detail the teaching practices of a teacher regarded by colleagues and students as a 'good' teacher, it is possible to add to existing knowledge about the teaching and learning process and the various 'scaffolding' strategies that support students' learning. The articulation of such strategies will contribute to professional dialogue, which in turn can be translated into teaching practices. For as Mercer (2002) states, the act of education does not consist of 'teaching' and 'learning' as separate processes, rather it is an interactive process of 'teaching-and-learning' and it draws on discourse as a key mediator. The explication of the characteristics of a classroom that encourages "dialogic inquiry" (Wells 1999) in which students engage in discussions and tasks that apprentice them into the discourse and methodology of a specific subject discipline is of value in informing teacher practice.

Although a classroom teacher has expert content knowledge s/he wishes to impart to students, as sociocultural theory argues, the simple regurgitation of facts is not the goal of the lessons. In this classroom the teacher's goal is to acculturate his students through a kind of "semiotic apprenticeship" (Wells 1999) into the practices of a particular discipline through the topic content. By creating a dialogic classroom in which students interact cooperatively with the teacher and each other, the teacher creates an environment whereby

his/her students can construct new understandings that transform the students' conceptual understanding. Thus, it is through dialogic negotiation that involves knowledge and skills being jointly constructed through the building of shared experiences in various activities, that the teacher and students together are able to interact in an orchestrated social process where "the students function as apprentices in learning socially valued ways of working within the context of schooling (Christie 1993, p.28).

While the significance of both the social context to learning and the ways in which learning is mediated through the social has been researched fairly extensively over the last twenty years, there is still considerable scope for further research that can lead to the articulation of teaching practices that will impact on student learning outcomes. As David Kirshner's (2002) work into pedagogical theory suggests there are many diverse perspectives on learning. What is required is not just exemplary teaching practices that can be used merely as 'bag of tricks', but explicit models of pedagogic theory that can support teachers in informing and transforming their practice. Chapters 4 and 5 make some contribution to the articulation of challenging and supportive teaching practices and overall this thesis contributes to discussion about the social context of learning and the importance of language to learning.

CHAPTER 2

Theoretical Foundations:
the three cornerstones

Teaching implies a developmental process, an unfolding of potential through the reciprocal influence of child and social environment, higher mental functions that are part of the social and cultural heritage of the child move from the social plane to the psychological plane, from the intermental to the intramental, from the socially regulated to the self-regulated. The child, through the regulating actions and speech of others, is brought to engage in independent action and speech (Tharp& Gallimore 1990, p.184).

Introduction

The purpose of this chapter is to discuss the theoretical foundations that have informed this research. In Chapter 1 it was suggested that just as learning is not a unitary construct, likewise a single pedagogic theory does not capture the complexity of the teaching environment. In drawing on multiple theories from different disciplines to elucidate pedagogic practice, a deeper understanding of what constitutes 'good' teaching becomes possible.

This research attempts to articulate a theory of teaching that accounts for both the cognitive development of the learner and the social context in which learning occurs. In order to do this, a number of notions drawn from theoretical perspectives that situate learning within a particular social context have informed this research. These notions are the *zone of*

proximal development; scaffolding; dialogism and the significance of *talk as a tool for learning*; *social interaction in learning*; and *the classroom as an activity setting*. Each is discussed not as a discrete entity, implying an impact on learning in an isolated way, but as a notion that interacts with other notions and contributes to an understanding of how learning is supported within the classroom environment. Another key theoretical perspective that informs this research relates to *language as a social semiotic* and the role language plays in supporting student learning. The major theories that underpin the notions listed above and notions of the ways in which meaning is realized through language have been influential in current debates on teaching and learning and are discussed in this chapter.

Theoretical perspectives

The theories discussed are from a number of different disciplines: socio-cognitive psychology, sociology, education and linguistics. Each contributes different perspectives on learning and language that provide a rich pool of theory that can inform pedagogic practice. Within this chapter there are three parts, with each part containing a brief description of the theories that underpin it and its relevance to pedagogic practice.

Part 1: A socially oriented theory of learning

In Part 1, Vygotskian and neo-Vygotskian approaches to conceptual development are discussed. The suitability of these approaches for researching teaching and learning within a classroom context is argued.

Part 2: The classroom as a site of activity

Part 2 refers to Cultural-Historical Activity Theory (referred to as Activity Theory) and its contribution to classroom practice, in particular language as a mediating artefact and the classroom as an activity setting. Applications of Activity Theory to this research are included in this section.

Part 3: Language as a social semiotic

Section 1 of Part 3 discusses the work of M.A.K. Halliday and other systemic functional linguists on language as a resource for making meaning. The work of socio-cognitive theorists on learning as an appropriation of subject discourses is also discussed. Section 2 applies the pedagogic approach taken in the classroom from which the data has been collected to pedagogical theory drawn from the work of sociologist Basil Bernstein.

Part 1: A socially oriented theory of learning

Introduction: key Vygotskian concepts

The writing of Lev Vygotsky, a Russian developmental psychologist whose work in the 1920s and 30s started to became available to the West after 1962, has had a major impact on educational research in the last fifteen to twenty years. His theories challenge the dominant behaviourist approach to educational psychology with its focus on measurement of individual attributes and behaviours and stresses the importance of language and social interaction in children's intellectual development. Largely due to his influence and those who work within similar paradigms, there has been a shift in the focus of classroom research in recent years towards the construction of a social theory of learning. It is within this environment that the role of the teacher in providing a rich and supportive environment for learners that engages them in challenging tasks that stimulate learning, is being studied.

Key concepts from Vygotsky's research that are significant for this research into classroom discourse and the role of the teacher in supporting students' learning are *the social nature of learning; the primacy of language as a tool for learning; the notion of internalization* and *the notion of zone of proximal development.* Neo-Vygotskian approaches to the study of learning and cognitive development relevant to this study are: *the nature of scaffolding* and *the importance of dialogism as a tool for learning* including the notions of *revoicing, appropriation* and *contingency.* A discussion of each and its relevance to the classroom context follows.

The social nature of learning

A key premise underlying Vygotsky's sociocultural psychology is the notion that learning takes place within a social context. "Human learning presupposes a specific social nature and a process by which students grow into the intellectual life of those around them" (Vygotsky 1978, p.89). This principle contrasts to the popularly held developmental theory of Jean Piaget that proposes a child's thinking develops naturally as s/he engages with the physical world. In this theory little account is made of the social environment within which the child is developing. These different perspectives on learning are summarised by Hicks:

> The Piagetian metaphor of the lone child interacting with an objective, logical
> work, struggling to overcome her initial egocentrism and irrational thought, has
> given way to an image of a socially responsive child participating in recurrent
> joint activity mediated by the uniquely human means of communication:
> language.
> (Hicks 1996, p.105)

To Vygotsky, culture comes into concrete existence in social processes, and these social processes provide the foundation for the emergence of individual mental processes (Wertsch & Tulviste 1998). Therefore human thinking needs to be understood within its social and historical context. As Davydov states, the origins of conscious activity are to be found "in the external processes of social life, in the historical forms of human existence" (Davydov 1988, p.25 cited in Moll and Greenberg 1990, p.319). Vygotsky's view of the social nature of learning has informed researchers working within a sociocultural paradigm who consider the process of learning as being about "cognitive socialization" and which acknowledges the primacy of talk and social interaction in the learning environment. Within the field of psychology this approach has been variously termed "cultural psychology" (Crook 1992); "socio-cognitive-developmental theory" (Smith 1989) and "the socio-historical approach" (Newman, Griffin & Cole 1989).

> The essence of this approach is to treat learning and cognitive development as
> culturally based, not just culturally influenced, and as social rather than
> individualized processes. It highlights communicative aspects of learning;

> whereby knowledge is shared and understandings are constructed in culturally
> formed settings.
>
> (Mercer & Fisher 1998, p.112-113)

Language as a tool for learning

The role language plays, according to Vygotsky, is primarily social.

> The primary function of speech, both for the adult and for the child, is the function
> of communication, social contact, influencing surrounding individuals.
>
> (Vygotsky 1934/78, p.45)

Within the social environment language becomes a critical "tool" for learning. He proposes that language and thought are combined to create a cognitive "tool" for human development such that "students solve practical tasks with the help of their speech as well as their eyes and hands" (1978, p.26). Artifacts mediate activity, and language, as a socially constructed artifact, is the most versatile artifact. As Wells states:

> Briefly Vygotsky argued that human beings' capacities for acting, thinking,
> feeling and communicating, although based in their biological inheritance, are
> crucially dependent on the practices and artifacts, developed over time within
> particular cultures, that are appropriated and internalized in the course of goal-
> oriented joint activity.
>
> (Wells 1999, p.139)

Vygotsky sees language as both a mediator of social activity and the medium through which it is made possible, and he uses the term inner speech to describe the mental activity with which individuals engage in problem solving activities. His theory of intellectual development attempts to acknowledge the profound changes learners undergo in their understanding when they engage in joint activity and conversations with other people (Wells 1994). When children begin school, they are required to use language in new ways. Vygotsky sees this type of discourse as a qualitatively different form of communication from everyday discourse "because words act not only as means of communication, as they would in everyday talk, but as the object of study" (Moll & Whitmore 1998, p.132).

Vygotsky uses the terms "everyday" and "scientific" to distinguish these discourses. "Everyday" concepts are based on direct, personal experience and are not subject to conscious awareness while "scientific" concepts, encountered in the course of instruction, have little contact with direct experience. As children engage in activity with others, the instruction or external, social dialogue gradually becomes internalized by the learner as "inner speech" and thus provides a resource for individual thinking (Gibbons 2002). Instruction therefore is of critical importance in helping students use language to engage in new ways of thinking.

> Formal instruction, then, with its special organization and discourse, through its social and semiotic mediations, provides children with the resources to develop the capacity to consciously manipulate and voluntarily control crucial sociocultural symbolic systems.
> (Moll & Whitmore 1998, p.132)

Vygotsky's notion of 'critical thinking', the ability to reflect consciously on concepts and their connections, has been applied to the education context by researchers such as Barnes (1976); Edwards and Mercer (1987); Chang & Wells (1988); Wegerif & Mercer (1996); and it has been observed that "scientific" concepts are constructed typically through verbal definitions and explanations in collaboration with the teacher. This research investigates how the teacher "scaffolds" (a term first used by Bruner and which will be discussed in more detail later in this chapter) the learning environment for students as they engage in critical thinking by moving from their "everyday" understandings based on direct experience, to more "scientific", generalised and systematic understandings through discussion and various activities.

Internalization

Another key concept in Vygotsky's theory of cognitive development is *internalization*. It is based on the principle that higher mental functioning is enabled through social interaction, particularly interaction between children and adults (Wertsch 1985; Brown & Ferrara 1985; Wells 1999; Lektorsky 1999). It refers to a child's gradual taking control of a problem-solving activity after being supported by an adult or more knowledgeable peer in the initial stages of the activity. During the move from other-regulation to self-regulation the role of

the adult or peer shifts from that of controlling and guiding the activity to one of encouraging and supporting the learner as s/he independently performs the activity. This is the basis of the mother-child and apprenticing situations where the teacher, tutor or master craftsman gradually relinquishes to the learner control over the activity (Brown & Ferrara 1985).

Investigation into these relationships is of considerable interest to educators as it attempts to account for learning within a sociocultural environment and acknowledges the importance of the mediating role language plays in the internalization process. Individual development "begins with external social activity and ends with internal individual activity" (Wertsch & Stone 1985, p.164), and language provides "the bridge that connects the external with the internal and the social with the individual" (Wertsch & Stone 1985, p.164).

The concept of internalization reinforces the role of the teacher in the development of students' higher mental functioning and supports a reciprocal relationship between teaching and learning. It is through engaging in thoughtful, planned activities within a social environment that students can come to understand complex relationships and develop new understandings. "The assimilation of general human experience in the teaching process is the most important specifically human form of mental development in ontogenesis" (Leont'ev & Luria 1968, p.365 cited in Forman & Cazden 1985, p.328). Internalization does not suggest an isolated, passive response to any new learning situation, but rather requires the learner to be actively engaged in the learning within a social context. It implies "an active, agentive process of transformation" (Hicks 1996, p.106) in which the "source of consciousness resides outside the head and is in fact anchored in social activity" (Lantolf 2000, p.13).

Within the classroom, teachers create opportunities for active engagement thereby enabling new understanding to be internalised. This process appears on two planes, first as an interpsychological category or intermental function between people and then as an intrapsychological category or intramental function within the learner (Vygotsky 1978). Thus the critical importance of the external social world to the conceptual development of a learner is reinforced and in the context of schooling, supports the need for a dialogic

classroom where activities are designed to provide students with the opportunity to develop a framework for learning through social activity. Language as a dynamic and flexible artifact in social activity, enables learners to participate in intramental activity as a precursor to developing intermental functioning.

> As new forms of discourse are encountered in, and appropriated from, social activity, they extend and transform the individual learner's intra-mental activity, thereby enabling him or her to contribute more fully and effectively to social activity. Acting and understanding thus proceed in a continuing spiral interaction between outer and inner, with language as the mediating tool.
> (Wells 1995a, p.256-7)

The Zone of Proximal Development

The zone of proximal development (ZPD) is a notion that has been adopted by many researchers in psychology and education to account for how learning occurs within a social context. Vygotsky defines the ZPD as:

> The distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.
> (Vygotsky 1978, p.88-89)

The ZPD is a metaphor for examining and accounting for "how mediational means are appropriated and internalized" (Lantolf 2000, p.17). It accounts for the conceptual development of students within supportive learning environments and "can be seen as having powerful implications for how one can change intermental, and hence intramental, functioning" (Wertsch & Tulviste 1998, p.16). A further description of the zone of proximal development is "a map of the child's sphere of readiness, bounded at the lower end by her existing level of competence, but at the upper end by the level of competence she can achieve under the most favourable circumstances" (Brown & Ferrara 1985, p.299). As students show evidence of learning there is a noticeable shift in control or responsibility

in activities and the zone of proximal development consequently alters to accommodate this shift.

There are two key features of human learning and development embodied in the concept of the ZPD: firstly, learning with assistance or instruction is a normal, common and important feature of human mental development and secondly, the limits of a person's learning or problem-solving ability can be expanded by providing the right kind of cognitive support (Mercer 1994). The importance of the teacher's role in providing a zone of proximal development that enables learning to occur, is emphasized by Hedegaard. She states:

> When children enter school, the teacher confronts them with the zone of
> proximal development through the tasks of school activity, in order to guide
> their progress toward the stage of formal learning. These tasks help children
> acquire motives and methods for mastery of the adult world, as mediated by the
> teacher.
> (Hedegaard 1990, p.350)

The ZPD is not a fixed 'zone' attached to the student, (Mercer & Fisher 1998), rather it is context dependent and relates to how the learner interacts with the event and makes sense of it. "It is the product of a particular, situated, pedagogical relationship" (Mercer 1994, p.102) in which there is a "collaborative construction of opportunities" (Lantolf 2000, p.17) or affordances (van Lier 2000) that support learners to develop understanding. In addition, the ZPD is constructed not only through the semiotic modality of language that enables students to actively participate in a dialogue with teacher, texts and peers, but also through other semiotic modalities such as body language, voice, diagrams and activity such as building and experiments (Smagorinsky 1995).

A challenge for researchers is to define clearly how the notion of the ZPD is manifested in everyday teaching and learning situations, how teachers work with a student's ZPD and its subsequent impact on student learning. One criticism of the notion of ZPD is the impossibility of teachers working with a whole class of students and trying to address each individual student's ZPD. One response to this dilemma is to propose a "collective" zone of proximal development derived from within a sociocultural system within which children

learn, with the understanding that this system is mutually and actively created by teachers and students" (Moll & Whitmore 1998, p.132). This approach offers a different transactional view of the zone of proximal development from the more traditional one that emphasizes imparting of skills from adult to child. It proposes a zone which "focuses on the co-construction of meaning as facilitated by the various activities that make up classroom life" (Moll & Whitmore 1998, p.152).

Another response to the difficulty of catering for individual ZPDs in whole class contexts is suggested by Mercer who proposes a different though related concept he terms the "synergy" of a learning group. Using this concept, the teacher creates a learning culture in the classroom through various activities designed to encourage the cognitive advancement of all students involved (Mercer 1994). By focusing on how well a class or group of students and their teacher function as a "community of enquiry" (Prentice 1991) in day to day curriculum activities rather than individual strengths and weaknesses, it is possible to identify the directions members of that class or group could be collectively expected and encouraged to advance (Mercer & Fisher 1998) toward. Instruction can be designed for a whole classes' ZPD through such things as class dialogue, group work, and task solutions (Hedegaard 1990) which support the class to function as a whole. It could be argued that group activity supports learners' development since group solving processes are "intended to develop a zone of proximal development for the class as a whole, where each child acquires personal knowledge through the activities shared between the teacher and the children and among the children themselves" (Hedegaard 1990, p.361). By incorporating the concepts of a 'collective' ZPD which supports a co-construction of meaning through group learning, and a class "synergy" within the Vygotskian notion of ZPD, it is possible to observe the building of a shared "common knowledge" (Edwards & Mercer 1987) within whole class teacher-student interactions.

The developmental psychologist Jerome Bruner, largely noted for the initial use of the term *scaffolding* (discussed later in this chapter), states the ZPD "has to do with the manner in which we arrange the environment such that the child can reach higher or more abstract ground from which to reflect, ground on which he is enabled to be more conscious" (Bruner 1985, p.24). Bruner draws on Vygotsky's idea that the child "grows" into the intellectual

life of those around them through "tutelage" of an adult or a more competent peer. In exploring the concept of ZPD and how the tutor induces the learner into the zone, Bruner emphasises the importance of minimising the possibility of error so that once the learner is willing to try, the tutor's role becomes one of "reducing the number of degrees of freedom that the child must manage in the task. She does it by segmenting the task and ritualising it: creating a format, a nanocosm" (Bruner 1985, p.29). He argues that once the child masters a routine the tutor then tempts the child to use this skill for higher order purposes – a kind of 'raising the ante'. This keeps the child 'in the zone' and at the same time stops her/him becoming bored and it is at this point that instruction occurs.

Bruner also stresses the importance of language in conceptual development by relating how language is used within the ZPD. He uses the terms *Given*, which means the unstressed, unmarked, backgrounded language and *New,* the stressed, marked, foregrounded language to expound this point. Within the ZPD, the teacher introduces ideas through *Given* information and the child is encouraged to question about what is beyond the information given. This reciprocal relationship between adult and child enables the development of *New* information (Bruner 1985). Thus the significance of language as a tool for learning is reinforced by the use of language in both inner speech, which supports internalization of the learning (intramental functioning), and in speech with others (intermental functioning) which supports consolidation of the learning. Interestingly, Halliday (1994c) also uses the terms *Given* and *New* in the context of his theory of language. In his theory, information is built-up through the *Given* and *New* structure of a clause, with what is known being placed at the beginning of a clause in the *Given* position and new information being added in the *New*. These terms reflect similar notions although they are drawn from different theoretical perspectives. Halliday's usage operates at the level of information unit, usually coextensive with one clause although not always, to show how information develops while Bruner refers to the use of larger chunks of discourse to negotiate new understanding.

Internalization of new concepts includes the learners' attempting to make sense of them by relating *New* information to known information, asking themselves about possible meanings and trying out new ideas. During this process the learner is not merely a passive recipient of adult support but an active participant who engages in *guided reinvention* – a

term that connotes both social learning and cognitive reconstructivist arguments (Tharp & Gallimore 1998). However, until internalization occurs, performance must be assisted through teaching which "can be said to occur when assistance is offered at points in the ZPD at which performance requires assistance" (Tharp & Gallimore 1990, p.177).

The application of the ZPD to a teaching and learning context is offered in a four staged model of development by Tharp & Gallimore. In Stage 1, the performance is assisted by more capable others. At this level the parent, teacher or more capable peer assists the learner make sense of an activity through language or some other semiotic system. "Stage 1 is transited when the responsibility for tailoring the assistance, tailoring the transfer, and for the task performance itself has been effectively handed over to the learner" (Tharp & Gallimore 1990, p.185). In Stage 2, the learner carries out the task without assistance from others although performance is not fully developed or automatic. During Stage 3 performance is developed, automatized and fossilized, with "fossilized" being used in the Vygotskian sense of "emphasising its fixity and distance from the social and mental forces of change" (Tharp & Gallimore 1990, p.186). Finally, there is Stage 4 where de-automation of performance leads to recursion through the zone of proximal development. This stage recognises information may be forgotten and helpful assistance can be provided by another. In teaching, this takes the form of repeating a lesson where the teacher "re-proceed[s] through assisted performance to self-regulation and exit[s] the zone of proximal development anew into automatization" (Tharp & Gallimore 1990, p.187).

These four stages complement the stages of a teaching learning cycle (Callaghan & Rothery 1988; Derewianka 1990; Hammond et al 1992; Sharpe & Thompson 1994) which is a model of pedagogic practice focusing on literacy development. Its core consists of the teacher building 'field' knowledge of a topic, modelling the type of writing required and then jointly constructing this with students. In both models, the teacher is aware of the student's development 'in the zone', with the Tharp and Gallimore model focusing on describing learning behaviour in the different stages while the teaching/learning cycle focuses on specific pedagogic practices designed to achieve the goal of learner autonomy. A further application of the ZPD to the teaching and learning environment is evident in Mariani's (1997) flexible framework (Figure 2.1) for investigating the ways in which the

goal of learner autonomy can be achieved. He links learner autonomy and dependence with two parallel concepts – challenge and support, each of these quadrants contrast the ways teachers behave. The way the challenge and support given to learners is combined in these two dimensions produces a unique teaching style and very differential learner outcomes.

Figure 2.1: A representation of Mariani's (1997) teaching style framework

```
                          High Challenge
                                │
                                │
                                │
                                │
  High Support  ────────────────┼──────────────── Low support
                                │
                                │
                                │
                                │
                           Low Challenge
```
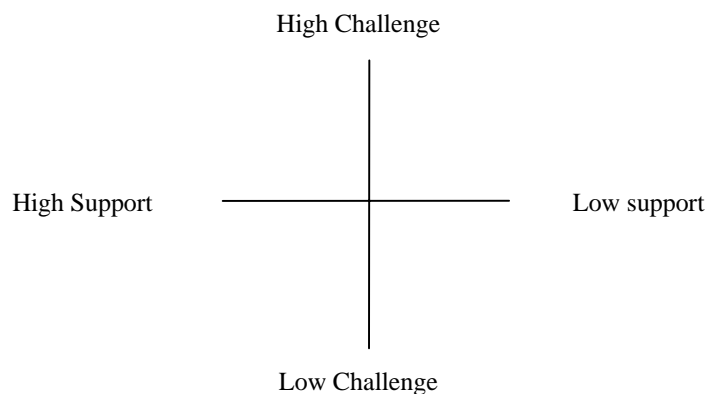
Challenge and support are provided through tasks set for students and interaction patterns established in the classroom. The challenge and support dimensions interact with each other to produce four identifiable patterns of teacher and learner reactions. A Low Challenge/Low Support dimension results in learner boredom and lack of motivation; Low Challenge/High Support leads to feelings of security for the students but there is a recognition they are achieving little in terms of learning outcomes; High Challenge/Low Support may lead to learner anxiety, insecurity and loss of confidence while High Challenge/High Support is the optimum combination for learning to occur. It is in this High Challenge/High Support environment that students are working within their ZPD and most likely to achieve success. As Mariani argues, the "challenge/support framework is more than just a feature of the learning process – it is indeed a condition for learning to take place" (Mariani 1997, p.1).

In the classroom, the teacher's role in creating a ZPD for students depends on the teacher having a profound knowledge of the concepts and general principles of the subject in order to develop effective activities that develop a theoretical basis of a subject. While planning, the teacher must be aware of the general principles to be understood and these need to be exemplified through concrete activities that enable learners to investigate the general

principles of the subject (Hedegaard 1990). There is evidence in the History classroom in this research of the teacher planning concrete activities to establish general understanding about the nature of History and historical inquiry. Discussion of some of the types of activities and how they contribute to conceptual understanding are discussed in Chapter 5. Vygotsky's ZPD contributes to a theory of teaching and learning because it "connects a general psychological perspective on child development with a pedagogical perspective on instruction. The underlying assumption behind the concept is that psychological development and instruction are socially embedded; to understand them one must analyse the surrounding society and its social relations" (Hedegaard 1990, p.349).

Scaffolding

Scaffolding is a term that has become widely used in educational contexts to describe the specific help that enables a learner to achieve a specific goal that would not be possible without some kind of support. Bruner originally used this metaphor to describe the form and quality of intervention by a 'learned' person to assist the learning of another person (Maybin, Mercer & Stierer 1992). "It refers to the steps taken to *reduce the degrees of freedom* in carrying out some task so that the child can concentrate on the difficult skill she is in the process of acquiring" (Bruner 1978, p.19 italics in original). The adult provides for the child a kind of "vicarious consciousness" which explicitly relates to Vygotsky's ZPD (Mercer 1994). In fact for many, the term scaffolding is synonymous with adult-child interactions designed to support the 'novice' as s/he operates within the ZPD (Stone 1998).

> If the child is enabled to advance by being under the tutelage of an adult or a more competent peer, then the tutor or the aiding peer serves the learner as a vicarious form of consciousness until such a time as the learner is able to master his own action through his own consciousness and control. When the child achieves that conscious control over a new function or conceptual system, it is then that he is able to use it as a tool. Up to that point, the tutor in effect performs the critical function of 'scaffolding' the learning task to make it possible for the child, in Vygotsky's word, to internalise external knowledge and convert it into a tool for conscious control.
> (Bruner 1985, p.25)

Scaffolding is recognized as a concept that is not easily translated into a practical classroom context. The early simplistic ideas about scaffolding as involving only a breaking down of the task to enable the learner to make new meaning have been replaced by a recognition of the complexity and potential multiple layering of the process that requires a constantly shifting perspective of the task at hand. It is "a much more subtle phenomenon, one that involves a complex set of social and semiotic dynamics" (Stone 1998, p.165).

The term scaffolding itself holds great appeal for teachers. Many feel it captures the essence of what they attempt to do when, for example, they discuss different observations during a concrete activity or challenge students to discuss various aspects of a topic. Through such 'scaffolded' activities, teachers believe they support the students in their learning so they can make sense of the concepts being taught. However experience shows that sometimes students have not really understood what has been taught. Many researchers (eg. Maybin et al.1992; Mercer 1992; 2000; Wells 1999; Gibbons 2002; Hammond 2001) have stressed the importance of realizing that scaffolding does not apply to **any** form of teacher support. It must be specific help that enables the learner to achieve a task that would not be possible without support. There is a finite goal that the child is trying to achieve and scaffolding is a way of supporting a student to achieve the goal. There is therefore a distinction between help and scaffolding although being able to articulate exactly what constitutes scaffolding is a challenge that is engaging researchers at this time. Mercer (1994) suggests that deciding whether something is 'scaffolding' requires at the very least evidence of the teacher wishing to assist a student to understand a particular concept or develop a specific skill (Mercer 1994). Maybin et al. (1992) make a clear distinction between scaffolding a task and mere help in accomplishing a task. They suggest scaffolding contains an element of **enabling** the learner to develop competence that can be applied in other contexts or in future tasks. That is, the learner is supported to develop critical skills and understandings relevant to the task so that s/he is able to achieve independent competence as a result of the scaffolding experience.

When the control of learning shifts from teacher to student, then "handover", (Bruner 1983; Edwards & Mercer 1987; Tharp & Gallimore 1990) the essence of which is the learner taking control of the process, is said to have occurred. Support may include a variety of

resources which act as agents of scaffolding as they help to mediate learning. Resources contribute to the creation of "message abundancy" (Gibbons in press), the notion of the message being received by the learner in a variety of modes such as oral or written explanations or visual diagrams. This 'doubling-up' of the same message is designed to provide additional support for the learner. "Message abundancy" is discussed further in Chapter 3. Scaffolding then is not a unitary construct. It is a response to students' needs and 'looks different' in different contexts, that is, it responds to a particular group of students at a particular time. It is an "act of connection, linking the needs of the students with the curriculum and with the particular task in which the students are taking part" (Gibbons, UTS seminar November 2002).

Maybin et al.(1992) provide a framework to determine the essential features of scaffolding. It consists of the talk in the classroom, for example the kinds of questions the teacher asks; the learning task itself with its inherent skills, concepts and understandings; the teacher's intentions such as responding to a student's confusion or introducing a new learning task; the learner's intentions for example using the teacher as a resource; the context including the quality of the mentor-learner relationship and the social and physical setting; the implicit understandings of teacher and learner about the activity and finally the outcome which can consist of a practical demonstration of new learning, tangible products or something in the talk. Dickson, Chard & Simmons' (1993) description of scaffolded instruction as "the systematic sequencing of prompted content, materials, tasks, and teacher and peer support to optimize learning" (Dickson, Chard & Simmons 1993, p.12) is consistent with this framework.

In classrooms where these features are evident, the responsibility of the teacher is one of 'apprenticeship' with the teacher being both model and mentor (Wells 1995a). Mercer (2000) extends the notion of apprenticeship by referring to an 'apprenticeship in thinking', a type of induction into ways of talking and ways of thinking. In this type of classroom, students do not purely replicate the teacher's knowledge but can extend and experiment with their own understandings and 'recycle' the language the teacher uses. In a sense teachers can act in a similar role to parents as they 'lead from behind' by supporting learners through activities and mediating through language and action. Rogoff calls the

process of children's induction into the intellectual life of their community 'guided participation'. Through interaction with others, students are guided in their participation in relevant activities in a variety of ways. For example, students are helped to adapt understanding to new situations, assisted to structure problem-solving strategies and to assume responsibility for managing problem-solving (Rogoff 1990). All these various practices then, constitute a form of scaffolding.

Mercer agrees with the usefulness of the 'scaffolding' metaphor to describe what takes place between a teacher and a learner during a joint activity, but notes the focus of sociocultural psychologists has been on *intermental* activity (social) rather than *intramental* activity. He suggests the need to explain children's development as *interthinkers*, that is, the language used "for thinking together, for collectively making sense of experience and solving problems" (Mercer 2000, p.1). This then requires thinking about teachers as 'discourse guides', "guiding children (or other novices) into ways of using language for thinking collectively" (Mercer 2000, p.170). It is through "guided participation" that this can be accomplished. This research supports this notion, and also demonstrates the importance of using detailed linguistic analysis of the data to reveal precisely the ways in which a teacher can create language that will support "interthinking" such that students appropriate abstract concepts presented by the teacher, as well as their words.

A feature of scaffolding adopted in this research is what I have termed "conceptual hooks". These are frames of reference or connections created by the teacher, mentor or more knowledgeable other to assist the learner to attach new information to existing knowledge. These "conceptual hooks" are created through various strategies discussed in Chapters 4 and 5. Hooks are available in any setting and assist students in overcoming significant obstacles in the generalisation process (Hoyles, Healy & Sutherland 1991cited in Mercer & Fisher 1998). So "conceptual hooks", as used in this research, describe the ways in which the teacher relates content information to a generalised understanding of how historical inquiry is undertaken and are a feature of 'scaffolding' practice.

During a scaffolded activity, learners come to acquire new information termed "semiotic uptake" (Wertsch & Stone 1985), through teacher planned tasks and intervention strategies. The beginning of this process requires the 'expert' to find a common ground as a 'way in'

to the activity, because without this shared understanding it would not be possible to guide the students' thinking to a more mature understanding of the problem under investigation or the concept or skills being developed (Rogoff 1986 cited in Stone 1998). The notion of 'scaffolding' is congruent with the social nature of learning and affirms the importance of language in making meaning within this process. Palinscar (1986) also stresses the importance of dialogue during scaffolding, drawing on examples from her own interactional studies of the fostering of reading comprehension via "reciprocal teaching". She argues that dialogue is the means by which support is provided and adjusted, and that it serves the function of "facilitating the collaboration necessary between the novice and the expert for the novice to acquire the cognitive strategy or strategies" (1986, p.95).

Educators and researchers are interested in what constitutes scaffolding and how scaffolding strategies afford learners the opportunity to develop more sophisticated understandings. Scaffolding "focuses attention on how, and how well, a teacher can actively organise and support children's learning without relying on didactic instruction or mere shaping through feedback" (Mercer & Fisher 1998, p.126). Scaffolding then appears to provide an effective conceptual metaphor for the quality of teacher intervention in learning. Planning and design of activities are a critical part of scaffolding and Mercer (1994) suggests a number of issues to consider in the planning, with how practical the task being the first consideration. This relates to time, resources and appropriateness of the task for the student's age and abilities. Next is the organization of the task, for example whether it will involve group work or pairs or is teacher directed. The organizational structure chosen provides different opportunities for students to engage with new ideas. Whether the task is related to other work is another consideration that draws on students' previous experiences and provides links to new learning. Finally the way the task is introduced and explained to students needs to be considered. This requires careful staging of the lesson/s and use of a variety of oral strategies to ensure students are following the development of new ideas. Scaffolding is thus a critical notion in sociocultural theories of teaching and learning in supporting students to become independent learners. "Using scaffolding strategies, and gradually removing them, is thus a concrete example of challenge and support in action, and is at the core of the process of learning and teaching for autonomy" (Mariani 1997, p.6).

Dialogism and the importance of talk as a tool for learning

The dialogic nature of discourse, which stems from the work of the Russian literary scholar Mikhail Bakhtin (1986), has provided a vehicle for incorporating Vygotskian approaches to conceptual development into a study of classroom discourse within a sociocultural theory of learning. Vygotsky asserts the learner is able to reorganise her/his thinking through social forms of communication and Bakhtin addresses the specifics of social speech genres and the way in which the dialogic interaction supports an individual's understanding (Hicks 1996). His research provides important insights into investigations about the nature of classroom discourse. In recent years there has been a major emphasis in the approach to researching classroom discourse and pedagogic practice grounded in Neo-Vygotskian theories where it is acknowledged that knowledge is acquired and applied in specific cultural contexts and that meaningful discourse is necessarily context-dependent (Mercer 1994). There is a shift in focus away from students' merely recalling facts on demand to students attaining personal understanding of new information. This shift requires a pedagogy with a focus on co-construction rather than transmission (Wells 1999). The notion of scaffolding, discussed in the previous section, supports a collaborative approach to learning and is situated within this broader paradigm of dialogic classroom talk.

In order to capture the essential nature of dialogue, Bakhtin drew attention to three features of utterances that make them different from sentences: first, a speaker's utterance always includes many voices, since all our words and phrases are taken over from the utterances of others; second it is always shaped and developed according to a specific generic form; and third it does not stand alone but is linked through a complex organization to other utterances (Bakhtin 1986). Dialogic interactions in the classroom have similar characteristics to conversations in which participants interact to build shared understanding. As Des-Fontain & Howe note about the nature of dialogic exchanges:

> Participants finish off each others' utterances, build on each others' ideas,
> support and extend what the other is trying to say, create dual, and at times even
> ambiguously shifting patterns of meaning (what Maybin calls 'provisional'

> meanings), to the extent that it is possibly closer to the truth to talk about the
> construction of *joint utterance* and *joint meaning*.
>
> (Des-Fontain & Howe 1992, p.140 italics in original)

A number of researchers have drawn on Bakhtin's notion of voices to inform their educational research. Maybin states "dialogues are set up within utterances by our taking on and reproducing other people's voices" (Maybin 1994, p.132). O'Connor and Michaels (1996) refer to a recurring move in discourse they have termed *revoicing,* in which another participant in the discussion, (teacher or other students) re-utters a reformulated version of the original student's utterance. Revoicing enables the students to be "repositioned" with the ideas being discussed and with each other. Also, revoicing "allows the teacher to effectively credit a student for his or her contribution while still clarifying or reframing the contribution in terms most useful for group consumption" (O'Connor & Michaels 1966, p.78). There is further discussion of the notion of revoicing in the following section.

In the context of the classroom, the 'voices' of the teacher and students can jointly contribute to "principled understanding", (Mercer 1987) which means a student essentially understands the *how* of certain procedures and processes with which they have been involved and the *why* of certain conclusions drawn from the activity. "Principled understanding" arises out of joint activity and discourse that is dialogic in nature through the development of what Mercer refers to as "common knowledge". Wells also supports a collaborative approach to teaching where students are "active constructors of their own knowledge". In a dialogic classroom a partnership between teachers and students, where students are given the evidence, guidance and support they need to create their own understanding is made possible (Wells 1987).

Hicks proposes we should view children as "agentive selves engaged in dialogic response to the social discourse of classrooms and communities" (Hicks 1996, p.11). If this is the view taken, and it is the view argued in this research, then classroom interactions should occur within a "situated learning" environment (Lave & Wenger 1991) where the teacher's role is one of creating a "cognitive apprenticeship" (Collins, Brown, & Newman 1990) that facilitates learning by co-constructing new information through joint negotiation rather than purely transmitting known or *Given* information. In such an environment, students take on

new ideas, "semiotic uptake" (Wertsch and Stone 1985), not by simply adding new ideas to existing knowledge in a kind of layering pattern, but through joint negotiation, transforming existing knowledge so that new understanding is gleaned. A conceptual leap has been made and new concepts have been created.

The importance of social interaction in learning is also emphasised by Erickson who states that research and theory constructed along neo-Vygotskian lines present cognition as "socially situated" and as "transpersonal". In a classroom context there is a reciprocity in the learning where all participants "construct an ecology of social and cognitive relations in which influence between any and all parties is mutual, simultaneous, and continuous" (Erickson 1996, p.33). A focus on the social environment in which learning occurs suggests that the processes of interaction through which cognitive or linguistic changes are made possible should be considered in tandem with the changes themselves, as each simultaneously interacts with and influences the other (Erickson 1996). This then allows all associated aspects of the pedagogic transactions to be viewed. A strength of this research is the detailed linguistic analysis that allows both an investigation of the ways in which the teacher attempts to build student understanding and at the same time the function of the interactions between teacher and students. These pedagogic interactions are investigated using Well's (1995b) idea of prospectiveness, which is the means by which the teacher extends the student interactions so that the students engage in a joint construction of an idea. A detailed discussion of this appears in Chapter 3.

Recognising the centrality of talk to cognitive development is a relatively recent development in sociocultural research (Mercer & Edwards 1987; Barnes 1992; Maybin et al. 1992; Young 1992; Edwards & Westgate 1994; Wells 1995, 1999; Gibbons 1998). The importance of 'talking to learn' was highlighted in the work of Barnes (1976) and since that time, studies in classroom discourse have noted the need for pedagogic innovation and experiment (Edwards & Westgate 1994). It is suggested teachers can provide opportunities for students to talk their way to understanding through group tasks where students are required to discuss, explore, explain, justify, clarify and challenge each other as they engage in a shared task (Mercer 2000). Wells likewise argues that through collaborative activities, students can begin to construct their own knowledge by incorporating current

understanding into new information through assimilating or accommodating to the new and extending or modify initial understanding (Wells 1992).

However the creation of this collaborative and mutually supportive environment requires careful planning of tasks so that students are supported in their learning from "everyday" to "scientific" understanding. During the activities, teachers also need to consider the ways in which they can support students to deepen their understanding of a topic and make connections with previous knowledge through questioning within small group and whole class discussion. This is an important issue that is taken up in this research. In addition to 'designing-in' activities in the planning stage that are appropriately sequenced to build content knowledge and understanding in a structured way, the teacher also needs to be aware of various strategies that will support learners 'at the point of need'. These strategies are typically a combination of discourse strategies and non-verbal strategies drawing on other modalities such as visual and experiential. As stated in Chapter 1, scaffolding of this nature is referred to as "responsive contingency" (Wells 2000; van Lier 1996), (discussed in more detail later in this chapter) and evidence of this type of supportive response during a discussion or activity is an indicator of a teacher being 'in-tune' with students' needs and acting contingently to address them. This notion is also taken up in the research in Chapters 4 and 5 with explicit examples from the data providing evidence of a teacher acting contingently to support student understanding of the nature of historical inquiry. Through use of both "designed-in" and "contingent" scaffolding strategies, teachers can maximise the learning potential of classroom activities.

Dialogue is realized through language that, although it can be described as using abstract grammatical systems, is not a neutral artifact. It houses the values, beliefs, and intentions of its users. As Bakhtin has suggested, the language appropriated by its users is still "warm" with the meanings and intentions of others (Hicks 1996). The study of how discourse mediates children's learning can provide insights into teaching and learning practices. As Hicks suggests, it is the dialogic relationship between social discourses and social activity, and the child's appropriation of those discourses that constitute *learning*.

> Learning occurs as the co-construction (or reconstruction) of social meanings
> *from within* the parameters of emergent, socially negotiated, and discursive
> activity.
>
> (Hicks 1996, p.107 italics in original)

The "social ecology" (Erickson 1996) of the classroom in which dialogue takes place is seen not solely as one whereby the learner internalises knowledge and skill in isolation, but rather as a mutually constructed and evolving understanding created through social interaction. There is a mutual reciprocity between learner and teacher with each both influencing and being influenced by the other (Erickson 1996). This challenges previously held views of learners as passive recipients of the teacher's knowledge – 'the empty vessel' idea of education – but it also raises the question of how the mutual influence of teaching and learning actually take place in and through immediate social interaction. The ZPD and scaffolding are key constructs within this research and it is within these notions that this research suggests answers can begin to be found.

In investigating classroom interaction it is necessary to consider the actual nature of the exchanges that take place. Firstly, classroom interaction is not literally dialogic. In reality classroom interactions are very messy and "children stumble over each other in conversation" (Erickson 1996, p.32). Another may complete one speaker's sentence, turn-taking may not be orderly and several speakers may speak at once. This apparent lack of order within the exchanges mitigates against a teacher working with an individual student's ZPD and leads naturally to a teacher working with a whole class within a 'commonly shared' ZPD. This approach can give the appearance of a teacher-dominated classroom that affords students little opportunity to participate in and contribute to the shaping of the exchange but this research suggests it is not necessarily the case. This point is developed in the conclusions in Chapter 6.

While at first it appears problematic that the apparently unstructured nature of dialogue can lead to a shared understanding, the key to understanding the ways in which this happens asserts Erickson is the contextualisation cues such as timing, speech prosody (pitch, volume) and body movement (gestures, postural shifts, gaze). These are all used to orchestrate the interaction and they support the organization of classroom discourse through

"cadential patterns" (Erickson 1996) created through both verbal and nonverbal behaviours. The centrality of timing in the co-construction of knowledge is critical because, "if the timing of classroom conversation falls apart, it may be that the ZPD bursts like a bubble" (Erickson 1996, p.59). Erickson further comments that a challenge for researchers is to find how the temporal organization of classroom conversations works as a learning environment – as the locus of engagement in the ZPD. In so doing, researchers may discover "how cadence and conversational rhythm may be working in the social and cognitive ecology of group learning as it takes place in classroom conversations" (Erickson 1996, p.59). Aspects such as the timing of how each lesson unfolds and use of other contextualising clues, for example, body language, voice variation to stress important ideas and other semiotic modalities such as writing on board and print material that contribute to a shared understanding, are an important focus for this study and are discussed in Chapters 4 and 5. Also discussed in Chapter 4 are the "cadential patterns" that reflect the different sequences the teacher moves through in the lesson to build content knowledge. These are realized linguistically through such discourse tools as metacomments and "busy clusters" of lexical strings.

Revoicing

While the social ecology of the classroom with its emphasis on the reciprocity and complementarity of interactions is a focus of Erickson's work, the idea of revoicing, already introduced in the previous section, offers another complementary approach to investigating how dialogue can be appropriated to enhance student learning. Through revoicing teachers can orchestrate and integrate simultaneously both the content of the lesson and the participation of students (O'Connor & Michaels 1996). This can be achieved through various discourse strategies such as: using students' contributions in the ongoing task; linking students' contributions to previous discussion; and creating a space in the discourse for the student to agree or disagree with the teacher's interpretation of the student's contribution which effectively credits the student with the reformulated content: "Through revoicing, students can be repositioned with respect to each other *and* with respect to the content of the ideas at hand" (O'Connor & Michaels 1996, p.71).

From the learners' point of view, revoicing encourages reasoning and provides the opportunity for new directions in the discussion. Learners are given the opportunity to extend their thinking and it may socialise them into particular intellectual and speaking practices in which they see themselves as legitimately contributing to the class discussion (O'Connor & Michaels 1996). They offer as an example the use of the discourse marker *so* which gives students' credit for the content of teacher reformulations. They state that this creates the opportunity for an inference by the teacher based on the student utterance. In a revoicing move, the teacher can accept the student's response from the start, adding an inference and then allowing the student the right to evaluate the correctness of the teacher's inference. These kinds of revoicing moves are seen regularly in the History classroom in this research and are categorised according to their function. A discussion of the different categories to describe the ways in which the teacher encourages and supports students and how they assist in extending the discourse is discussed in detail in Chapter 3.

In the classroom in which students are encouraged to be active participants, there is greater equality of participation between teacher and students than in teacher-directed or child-centered classrooms. Students construct meaning as teachers create situations whereby students can draw on both their own personal experience and information that is made available to them. Through these means students do not merely copy the teacher's information, "rather they transfer what the experts offer them as they appropriate it" (Lantolf 2000, p.17); Lantolf refers to this as "imitation" as opposed to "mimicking". In this research, group and individual tasks related to the content such as role-play, writing a newspaper and designing a model, provide such situations. As Wells argues:

> in order to make sense of a new tool or practice, the learner must bring to bear his or her existing cultural knowledge. As a result, the processes of appropriation and internalization involve not a simple copying, but a transformation of the use of the tool, of the capacities of the learner, and of the problem situation in which the tool is used.
> (Wells 1995a, p.250).

Appropriation

Appropriation is another key notion in neo-Vygotskian theory relevant to dialogism as a tool for learning. It was introduced by Vygotsky's colleague Leont'ev (1981) and asserts that students do not need to 're-invent the wheel' as they acquire new knowledge since they can 'appropriate' understanding through cultural contact. Learners adopt "the conceptual and pedagogic tools" used in specific social environments and internalize the ways of thinking common to cultural practices of the group (Grossman, Smagorinsky & Valencia 2002). Stated simply, "appropriation is concerned with what meanings children may take from encounters with objects in cultural context" (Mercer 1994, p.105). In schooling this relates to the bi-directional way in which concepts and ideas are appropriated not only by the students, from either the teacher and/or each other, but also by the teacher. It reflects Bakhtin's idea of 'voice' that has been used to discuss children's social and linguistic enculturation. Appropriation is an important apprenticing tool, for as Grossman, Smagorinsky & Valencia state, it is "through the process of appropriation learners reconstruct the knowledge they are internalizing, thus transforming both their conception of the knowledge and in turn that knowledge as it is construed and used by others" (Grossman, Smagorinsky & Valencia 2002, p.9). The notion of appropriation is particularly useful in classroom discourse studies because it deals with the *reciprocity* of teaching and learning which acknowledges that the process of appropriation is not simply one-way. Students appropriate ideas from their teachers and each other, but teachers also appropriate ideas from learners, and in so doing they encourage students to participate in the learning experience. Appropriation is used by Newman, Griffin and Cole (1989) "to explain the pedagogic function of a particular kind of discourse event whereby one person takes up another person's remark and offers it back, modified, into the discourse" (Mercer 1994, p.105). Teachers can appropriate a student's utterances and offer back a re-contextualized version through discourse strategies such as *paraphrasing* what the student has said*, recapping* what has been done or *relexicalizing* (McCarthy 1991) by modifying what was said.

Appropriation, situated within a socio-cognitive theory of learning is an important theoretical construct with significant implications for pedagogic practice. Through

appropriation, a "dialogic form of consciousness" (Hicks 1996) is created as an individual speaker develops a response to utterances that are made. As teachers appropriate students' responses, reform them and 'repatriate' them into the discourse for students to appropriate, new knowledge and conceptual understanding can be co-constructed. This thesis exemplifies through the data analysis the ways in which appropriation is used by the teacher as one of the discourse tools to develop conceptual understanding.

Contingency

Teaching requires flexibility to accommodate the unpredictable nature of classroom interactions and this flexibility is captured in the notion of contingency. As stated in the beginning of this section, contingency refers to the support provided to students at 'the point of need'. It is a form of scaffolding provided to learners in an immediate context and relies on the teacher being able to identify the 'teachable moment'. Contingent teaching means the teacher is able to judge what the student needs and appropriately pace the support to be in line with the student's learning (Hammond 2001). It involves talk, mostly in the form of questions and answers, which enable the teacher to gauge how the student is thinking and what barriers there are to learning. Although contingency cannot be "designed-in" to a syllabus or lesson plan, van Lier suggest that "this local or interactional scaffolding may well be the driving force behind good pedagogy, the hallmark of a good teacher" (van Lier 1996, p.199). He states:

> Contingency can be seen as a web of connecting threads between an utterance
> and other utterances, and between utterances and the world. This web can be
> sparse and flimsy, as in the case of recitation, or it can be thick and strong, as in
> the case of conversation. Contingencies draw upon what we know and connect
> this to what is new. It is thus part of the essence of learning.
> (van Lier 1996, p.174)

Typically, contingent teaching entails conversation embedded in action that assists students to understand relationships between actions and events, and relate these to the wider world. While the conversations between teacher and students are unequal in terms of role, age, status and power, classroom interaction exhibits equality in the right to engage in

conversations which lead to "interactional symmetry among unequal participants" (van Lier 1996, p.176). Thus a contingent view of learning "is the result of complex (and contingent) interactions between individual and environment" (van Lier 1996, p.170).

In the transition from teacher-led support to independent learning, Tharp and Gallimore suggest a strategy referred to as "contingency management". This is the means of assisting performance through a system of rewards and punishments based on behaviour (Tharp and Gallimore 1990). While contingency management cannot be used to originate new behaviours it does encourage advancement through the zone of proximal development and as such, assists performance. It is used in many classrooms in various forms such as points for a team or permission to work on an alternate class activity such as a computer or favourite game and relates more to pre-planned classroom management structures than spontaneous contingent responses.

Gee (1992) discusses evidence of good teaching which, although he does not use the term contingent teaching, resonates with this notion. He associates evidence of good teaching with the need for explicit teaching of Discourse (discussed in detail in Section 3). He also asserts that good teachers know intuitively how to guide their students to focus on and pay attention to exactly what will assist them to understand what is being taught. This behaviour occurring at precisely the right time is 'responsive contingency' in action. Although specific instances of 'responsive contingency' cannot be planned for in a lesson, a teacher may have an idea that certain concepts or ideas will be difficult for students to grasp and so the planned activities provide the necessary context for contingent teaching to occur.

> Schools must supply rich, interactive apprenticeships in Discourses to all children, and they must have teachers who know where and how to say "Look at *that*" at the right time and place. But it does no good to tell people to look at what they cannot see. And we can only see what has already been opened up for our view by an apprenticeship within some Discourse that renders such things "visible" in the first place.
> (Gee 1992, p.137)

As seen through the discussion, Vygotskian and neo-Vygotskian theory gives prominence to communicative and cultural factors, and is well suited to the study of teaching and learning in an educational context. In attempting to describe what constitutes effective teaching practice that will enhance students' conceptual development, educators find in these theories a means of seeing teaching not simply as the transmission of knowledge from a more knowledgeable adult to 'empty vessels', but rather as a jointly negotiated, socially situated practice that requires active and motivated engagement by the learners, and teacher skill in both designing relevant and manageable activities and acting contingently to support students at appropriate moments.

Part 2: Activity Theory and its contribution to classroom practice

The Activity Theory model

Activity Theory provides a rich resource for describing teaching as an activity which enculturates students into the practices of schooling and the discourses of the different disciplines. It refers to the line of theorizing and research initiated by the founders of the cultural-historical school of Russian psychology, L.S. Vygotsky, A.N. Leont'ev, and A.R. Luria, in the 1920s and 1930s. The concept of activity is based on Karl Marx's theory of dialectical-materialism which draws on the achievements of classical German philosophers Kant, Fichte and Hegel (Davydov 1999). Marx's concept of labor was the model of human object-oriented activity Leont'ev used in formulating the concept of activity (Engestrom 1999).

Leont'ev (1981) drew directly from Marx and Engels, emphasizing the use and making of tools and conditions of joint, collective activity as two mutually dependent aspects of mediation in labour activity. He distinguished between collective activity and individual action by means of reconstructing the emergence of division of labor. Leont'ev elaborated upon Vygotsky's work by integrating human beings into the unit of analysis of object-oriented action mediated by cultural tools and signs. This analytical feat prompted by Leont'ev's reading of Marx, is summarized in the following famous passage:

> A beater, for example, taking part in a primeval collective hunt, was stimulated
> by a need for food, or, perhaps, a need for clothing, which the skin of the dead

animal would meet for him. At what, however, was his activity directly aimed?
It may have been directed, for example, at frightening a herd of animals and
sending them toward other hunters, hiding in ambush. That, properly speaking,
is what should be the result of the activity of this man. And the activity of this
individual member of the hunt ends with that. The rest is completed by the
other members. This result, i.e., the frightening of game, etc. understandably
does not in itself, and may not, lead to satisfaction of the beater's need for food,
or the skin of the animal. What the processes of his activity were directed to did
not, consequently, coincide with what stimulated them, i.e., did not coincide
with the motive of his activity; the two were divided from one another in this
instance. Processes, the object and motive of which do not coincide with one
another, we shall call "actions". We can say, for example, that *the beater's*
activity is the hunt, and the frightening of the game his action.
(Leont'ev 1981, p.210 italics added, cited in Davydov 1999, p.40)

The social sciences have shown considerable interest in Activity Theory and according to
Engestrom, one of the most prominent proponents of Activity Theory, "Activity Theory has
much to contribute to the ongoing multidisciplinary wave of interest in cultural practices
and practice-bound cognition" (Engestrom 1999, p.8). It is described as "at once, broad and
intricate, intellectual and practical, and, although already richly textured, still in a formative
stage" (Minnis and John-Steiner 2002). Within the context of the classroom, Activity
Theory has not been used to any great extent (Wells 2001). However, as the sociocultural
interpretation or creation that is imposed on the context by the participant(s) is one of the
most important characteristics of an activity (Wertsch 1985), Activity Theory presents a
suitable theoretical framework for the study of teaching and learning, an institutionally
situated and socially constructed event.

Leont'ev's definition of activity, which is an organizing principle of human activity, states
that activity is usually carried out by some collective of actions that are subordinate to
partial goals and these can be distinguished from the overall goal (Leont'ev 1981).
Davydov, a leading Russian Activity theorist, has extended Leont'ev's definition to make a
contemporary description of Activity Theory. He states that humans, in engaging in activity

that consist of goals, means, the process of molding the object and results, construct new forms and features of reality and thereby change the initial material into products. In the process of doing this, the subjects change and develop themselves (Davydov 1999).

Davydov's description applies to the classroom context where teachers and students, through engaging in the activity of teaching and learning change and develop themselves. During a lesson, teachers and students engage in various operations designed to achieve a specific goal. This occurs within a cultural context of schooling where teacher and students are developing a shared understanding of the overall purposes of education. In this research, the everyday operations of the lesson/s that fulfil the goal of the lesson/s are explored within the larger activity context of inducting students into an understanding of the study of History and its associated methodology.

The distinction between activity and action became the basis of Leont'ev's three-level model of activity. The theory consists of three strata: activity (motive), action (goal) and operation (conditions), with the role of humans being primary to the activity. Activity can be individual or collective and includes activity with other humans as well as activity with an object eg a machine. Human activity is part of the system of social relationships and cannot exist without these relations (Leont'ev 1981). Each of the strata of activity, action and operation provides a different perspective on the organization of events. Wells (1995, 1999, 2002) relates these three strata of human activity to the classroom. He states the predominant **activity** is *The Practice of Education*; **action** makes the activity 'real', but in order to do this the third level **operation** must be invoked. Operation is "where the focus is on the particular means that participants use to achieve the goal of the "action" in view, under the conditions that prevail in the situation" (Wells 1999, p.233). In this research the level of **activity** relates to the idea of apprenticeship into the discourse and methodology of History, **action** is the teaching and learning activities in the classroom and **operation** is the discourse strategies used to achieve the goal. Specific applications of Activity Theory to this research appear later in this section.

Engestrom situates "activity" within a community of practice and has expanded Leont'ev's original model to enable the analysis of complex interactions and interrelationships and to explicate the social and collaborative nature of the actions. Minimum elements of this

system include the *object, subject, mediating artifacts* (signs and tools), *rules, community*, and *division of labour* (Engestrom 1987; Cole & Engestrom 1993). As Engestrom states, internal tensions and contradictions are the motive for any change and development. By using Engestrom's model, shown in Figure 2.2, both the historical and local contexts can be addressed in the analysis.

Figure 2.2: Engestrom's model of Activity Theory
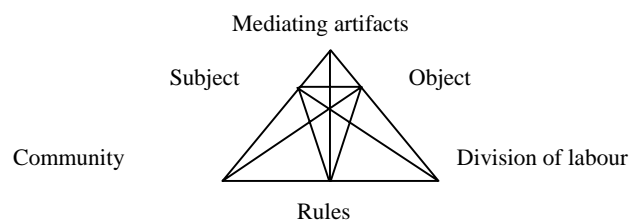
In this expanded model, the individual "action", represented by the *tools/artifacts*; *subject* and *object* in the top portion of the diagram, is related to the larger cultural and historical context by the relationships represented by the other triangles: *rules, community* and *division of labour*. For example, the *subject-object* relationship, that is to say, the subject's goal orientation (the action), is modified by the cultural rules that apply to this relationship and by the *division of labour* in which it is embedded. These rules, or norms, might well include the tools considered appropriate to use, and the way in which control of their use is distributed among the different categories of community members who are regularly involved in this and related actions. However, these relationships are not static, they are continuously being constructed and reformulated in the course of their deployment in particular, situated actions (Engestrom 1999). Hence, "the study of an activity system becomes a collective, multivoiced construction of its past, present, and future zones of proximal development" (Engestrom 1999, p.10). The researcher can therefore take into account both the system view of the activity, as if from above, and at the same time the subjects' view as they are engaged in and construct the activity.

Although Activity Theory has not been used to any great extent to date in education where the object is understanding of facts and concepts mediated through discourse and other semiotic artifacts, it does offer a means of examining the practice of teaching in which the teacher in the classroom (local activity) apprentices the students into the discourse of the

specialized subject through planned activities, using a range of resources (historically formed mediating artifacts) that are generally recognized as being central to the transmission of cultural knowledge. As teacher and students engage in local joint activities to achieve a specific goal, the cultural resources are brought into play as a way of supporting students to understand new learnings within a particular sociocultural framework. The ways in which Activity Theory can be used to elucidate pedagogic practice and the interrelationships between each of the elements in the enactment of activity in the classroom, is discussed later in this section in: applications of Activity Theory to this research and in Chapter 4, Section 3: activity within the classroom.

Language as a mediating artifact

One way that mediation by signs and subject-subject relations occurs in object-related activities is through communication. Prominent linguists are currently finding activity "increasingly attractive as a means of conceptualizing the interface between sociocultural and linguistic realms" (Engestrom 1999, p.24). Language activities are simultaneously linguistic and sociocultural phenomena and in the context in which they are being used, they become part of the social meaning of the linguistic structures that realize the tasks. That is, "objects (and hence words) take their meanings from the variety of activities in which they participate" (Ochs 1988, p.17).

The idea of mediation by tools and signs is critical to Activity Theory. Vygotsky (1978) suggests that humans can control their own behaviour not "from the inside", on the basis of biological urges, but "from the outside" using and creating artifacts. This perspective is not only optimistic concerning human self-determination, it is an invitation to serious study of artifacts as integral and inseparable components of human functioning. As Wartofsky states, "the *artifact* is to cultural evolution what the *gene* is to biological evolution" (1979, p.205). Language is an artifact and probably the most extensive and flexible of all. It has been defined as "a material object that has been modified by human beings as a means of regulating their interactions with the world and each other" (Cole 1999, p.90) and in the classroom it is a very powerful artifact for constructing socially and culturally mediated human behaviour.

Wartofsky also considers the nature of tools and poses a three-level hierarchy of artifacts which Cole suggests helps him to "bridge *tool-mediated activity*"*,* the key concept of the cultural-historical school, and "*context*, a key concept in Western discussions of cultural psychology" (Cole 1999, p.91 italics in original). The three levels posed are: *primary* artifacts, including those used in production, for example axes, bowls, computers; *secondary* artifacts consisting of representations both of primary artifacts and modes of action for using them; and *tertiary* artifacts which are imagined worlds which can act as tools for changing current practices. In the History classroom in this research, the principle artifact is a tertiary one where the teacher apprentices students into the practices of historians but secondary and primary artifacts are also used in activities such as role play, model building and creating a newspaper on computer. The use of all three levels attests to the complexity of a teaching and learning context.

"Language and inner speech accompany all other forms of action in an activity" (Lemke 2002a), therefore an exploration of the function of dialogue as a mediating tool in Activity Theory is relevant to discussions about teaching and learning. Material tools and semiotic signs (of which language is a primary constituent) perform different roles in activity. Even though both may be directed at the same object, the way each brings about the transformation of the object is different, "the agency of the users of signs and tools is of a different kind" (Wells 2002, p.49). A recipient of a semiotic action is not likely to be transformed in any significant way in a material sense, rather the semiotic action will lead to a response or relevant action performed by the addressee. The semiotic sign can only be considered metaphorically as a tool because its purpose is to "contribute to the construction and exploration of a "possible world" (Bruner 1986) that is collaboratively undertaken through the successive contributions that the participants make to the emerging co-constructed text" (Wells 2002, p.49), rather than bring about some physical or concrete outcome. However material tools and semiotic signs are not mutually exclusive forms of joint activity. They are complementary to each other as they can occur within the same activity either at the same time or in alternate stages of the activity (Wells 1999, p.10). This research examines the ways in which both material tools and semiotic signs work together to bring about the goal of the action. Lektorsky (1999) confirms the complex relationship of interactants engaged in dialogic activity in order to bring about some kind of change. He

states that in engaging in a successful communicative activity, the interlocutors are aware simultaneously of the position and values of the other and are cognizant of seeing themselves being aware, resulting in their performing an 'inner dialogue': "It is a complicated system of interactions between 'my own image of myself', 'the image of me by another', and 'the other's image of him-or herself'" (Lektorsky 1999, p.68). Dialogue then is an activity and a process of change but not in the same way a material tool transforms physical things.

The role of dialogue in Activity Theory is particularly relevant to this research. Lemke asserts that "dialogue is a material process not just a formal exchange of signs" (Lemke 2002a), and Wells (2002) concurs that dialogue does have an impact on the material world. Much dialogue relates to the real world activity either as planning or reflecting on physical action to be performed, or to non-physical more abstract endeavours such as scientific, metaphysical or artistic discussions in which the meanings "can come to colour and change our perception of the 'actual' world, as envisioning possibilities in it not presently recognised" (Wartofsky 1979, p.209).

Dialogue does differ from tool-mediated action in a number of ways. These differences are firstly, the action performed is one of 'meaning', related to the material utterance only indirectly; secondly, the object of the speaker's utterance is not the other participants but the issue, problem or topic that is the focus of joint consideration, and, thirdly, there is no material overt artifact as outcome: the outcome is enriched understanding of the 'object', both individually and collectively (Wells 2001). If, as Wells (1999) suggests, education should be approached as essentially an activity of "dialogic inquiry" and that schooling should be seen as fundamentally a form of "semiotic apprenticeship", then the role of dialogue in activity should be afforded a central place in theories of teaching and learning. Through investigation into the dialogic nature of the classroom and its impact on student learning, this research contributes to this discussion and informs pedagogic practice.

The interplay between tool- and sign-mediated action in the context of joint activity is exemplified through a classroom example offered by Wells (2001, 2002). In his example, two nine-year-old students were making a 'technology' object (something that serves or might serve a purpose) using collected junk materials found in the classroom. They were

also required to write individual entries into learning journals about what they were doing. At one level, the object of activity was to construct a working model, at a second level, the object of the activity was the construction of a specification (2) of the object (1) constructed according to the criteria specified by the teacher. At a third level, the object was to reach a decision (3) on what object (1) to make. In addition, a fourth object, to be worked on in parallel with all of the others, was to make entries in their learning logs (4) describing and reflecting on the processes involved in (1) – (3). Thus, tool and sign were employed to mediate the action. This interplay is typical of classroom activity so that "to represent each phase of action as <u>either</u> subject-oriented, mediated by tools, <u>or</u> by subject-oriented, mediated by signs does not do justice to the nature of collaborative joint activity" (Wells 2002, p.16 underlining in original). In most classrooms then, teachers 'design-in' to a lesson various tasks that are at times mediated by language or other semiotic systems such as textbooks, and at other times mediated by action and that sometimes utilise a combination of both sign and tool mediation.

The importance of language as a tool in joint activity is further supported by Tharp & Gallimore (1988) who describe the ways in which language enables the learner to conceptualise new learning through jointly negotiated activity. They argue the complementarity of Activity Theory to Vygotskian notions of internalization and related notions of scaffolding.

> In joint activity, the signs and symbols developed through language, the development of common understanding of the purposes and meanings of the activity, the joint engagement in cognitive strategies and problem solving – all these aspects of interaction influence each participant. While the more able member of a joint activity exercises more influence, through providing more assistance, it is one task of the teacher to understand the subjectivity of the learner, and – for the task at hand – to share it so as to influence it. As new members, it is internalised into a new cognitive development.
> (Tharp & Gallimore 1988, p.89)

The classroom as an activity setting

A number of researchers (Engestrom 1999; Davydov 1999; Lektorsky & Toulmin 1999) have all noted problems with creating an interdisciplinary theory of activity. They urge continuation of research in practical, 'everyday' environments. The classroom is certainly one such area where research is beginning to explore both the ways in which mediating artifacts impact on the achievement of the goal of the lesson and the ways in which the elements of *division of labour, community* and *rules* are enacted in a classroom community so that *subjects* (students) achieve the *object* (goal) of the lesson. In education, the object of the activity is "the understanding of events, concepts, and theoretical relationships, and the mediational means are the description, narratives and explanations – in speech as well as writing through which this writing is achieved" (Wells 2001, p.1). Research in classrooms then requires particular emphasis on language as a mediating artifact is discussed in the previous section. This section discusses the classroom as an activity setting and issues relevant to the specialised nature of the educational context.

Tharp & Gallimore (1990) use the term *activity settings* to refer to the occasions when teaching occurs, that is when there is collaborative interaction and assistance with performance. As they point out, the concept of activity setting has multiple origins (Whiting & Whiting 1975; Leont'ev 1981; Weisner 1984; Wertsch, Minick & Arns 1984; Cole 1985; Weisner & Gallimore 1985; Tharp & Gallimore 1988). The two essential features of an activity setting are the activity itself consisting of the "cognitive and motoric action" and the setting, containing the "external, environmental, and objective features of the occasion" (Tharp & Gallimore 1990, p.190). They assert the task of schooling is the creation of activity settings and note the importance of language as a tool for learning as it is mainly language that enables the development of intersubjectivity in joint construction, concepts to be internalised, discourse meaning and higher cognitive processes to be developed (Tharp & Gallimore 1990). While Tharp and Gallimore assert that all school activities can be analysed in terms that consider the *who, what, when, where* and *why*, a richer description of classroom activity can be gained from using Engestrom's terms, *subject, object* and *mediating artifacts*. These terms construct the action (goal of the activity) and enable the various elements to be examined first individually, then for the

impact of the interrelationships between *rules, community* and *division of labour*. The relationship between the elements and their effect on the outcome of the action is not within the scope of Tharp and Gallimore's approach. In Part 4 of this chapter, Engestrom's framework has been applied to describing first the study of History as a subject, then to describing the first two lessons of the data that it is proposed form an Induction genre. By specifying each of the elements that impact on the activity, it is possible to consider the ways in which each individually and collectively contribute to the goal of the joint construction of knowledge.

A significant question that is pertinent to this research in education is captured by Toulmin (1999) when she asks "How is it, then, that individuals can be successfully socialized, or enculturated into the shared *Wissensstand* of any particular culture or profession?" (Toulmin 1999, p.55). *(Wissensstand* refers to the current state of the art in the relevant field of inquiry). She further suggests that Activity Theory would be best served at this point in history by a "focus on the richer preliminary task of describing these activities in full and relevant detail" rather than by trying to move too quickly into developing new patterns or paradigms. The ethnographical approach of this research is consistent with this view. One aim of this research is to provide rich descriptions of human activity in the classroom environment and so contribute to current understandings about Activity Theory in an educational context.

The kind of activity relevant in this research is activity related to learning. Other kinds of activity such as play, labour or everyday conversations can have learning occur but this is not a conscious goal of the activity. In a learning activity the aim is "psychic transformations of the subject itself" (Davydov 1988a; El'konin 1989; Lompscher 1988 cited in Lompscher 1999, p.267) that assumes certain levels of ability, motivation and memory structures without which learning would not possible (Lompscher 1988).

Engestrom (1987) has also developed the idea of an expansive cycle (Engestrom 1987). An expansive cycle in Activity Theory "represent[s] the way in which action is embedded within this more complex organizational structure of activity" (Wells 2000, p.5) and that leads to the development of new structures within an activity system. In other words, expansion is Engestrom's metaphor for transformative processes and outcomes whereby

activity systems can reproduce existing social structures and through expansion produce new ones (Minnis & John-Steiner 2002). A new activity structure emerges after reflection of the existing activity structure in which appropriation of culturally advanced models and tools initially leads to internalisation and reflection about ways out of internal contradictions. Then, as the cycle develops, externalisation begins to dictate, beginning with individual improvements. This leads to further critical self-reflection within the individual (internalisation) and a desire for a solution to the disruptions. A new activity model is achieved when the externalisation has reached its peak.

> As the new model stabilises itself, internalisation of its inherent ways and means again becomes the dominant form of learning and development. At the level of collective activity systems, such an expansive cycle may be seen as the equivalent of the zone of proximal development, discussed by Vygotsky (1978) at the level of individual learning.
> (Engstrom 1987, p.34-35)

The expansive cycle then, incorporating the role of dialogue, can be applied to the classroom context to investigate the development of student understanding achieved through internalization and reflection on learning during the actions in which students participate.

Very recent discussions of Engestrom's model challenge the apparent 'fixed' nature of some of the roles within the activity system, such as *signs* and *tools, subject* and *object*. Lemke (2002) asserts the roles will vary as the activity unfolds. The occupants of these roles can shift and "activity-with-dialogue unfolds precisely BECAUSE of such shifts" (Lemke, J., xmca, October 30, 2002b, caps in original). He continues by stating that dialogue can "function as activity and within activity by the configuration of roles and especially by the sequence of transformation of roles" (Lemke 2002b). This shifting of roles results in a new activity framework that is more "dynamic" than the original version.

Wells (2002) also supports Lemke's view and comments on the dynamic nature of roles. While he acknowledges that Engestrom's representation of an activity system is much more comprehensive than Leont'ev's, he notes Engestrom's model appears "unidirectional" with

the subject/s acting to transform an object through artifact-mediated action. This does not take into account the reciprocal influences of participants in the dialogue, the "mutual adjustments" required as they work together in the zone of proximal development, or the "transformation of identity" experienced by the participants as they work towards co-constructing the goal of the activity. The role of *subject* in Activity Theory also is not static. It differs according to whether the activity is semiotically mediated interaction or artifact-mediated action. Raeithel proposes that "the distinguishing mark of sign mediated action in comparison with tool mediated action (narrow sense) is precisely that the object of the activity is the subject itself. Subject acts on Subject via mediational means" (Raeithel xlchc, March 30 1995).

Also, the role of *object* has a dual status. If the object of the activity is tool mediated activity, then the object that can be handled becomes the focus of the activity. But at the same time, the "symbolic" aspect of the object also allows the object "to participate in the students' progressive attempts to increase their understanding of the phenomena under investigation" (Wells 2002, p.43). In the classroom context, the ways in which the interrelationship between "the semiotic and material aspects of the activity, the solo and collaborative aspects, the linguistic and nonlinguistic aspects, work together to evolve some flow of actions" (Lemke, J., xmca, October 29, 2002) so that they make sense to the participants engaged in the activity is of interest in this research. It is of value for the researcher to look retrospectively not at 'what happened' but 'how it happened'. This type of reflection provides insights into the ways in which humans, interacting in on-going contingent dynamic activity and using semiotic and tool mediated artifacts, create the context for meaning making within an activity setting.

While some comments on the limitations of Engestrom's expanded model of an activity system have been raised, it nevertheless offers significant advances on Leont'ev's original model in theorising about the complex web of human activity. It can be used to show potential areas of tension and potential breakdown in the classroom. Wells states for example that in a typical "recitation script" lesson (IRF), where the teacher maintains the role of "primary knower" (Berry 1981) throughout, students can only act in a responsive role and this limits their active participation in the construction of knowledge. The division

of authority and labour between teacher and students is unequal and as a result, "the outcome of the action from the students' *subject* position is one of memorised information rather than the active appropriation and transformation of [geographical] knowledge that the curriculum designer presumably intended" (Wells 2001, p.6). While I agree with this view generally, I believe the teacher in role as "primary knower", can also modify the recitation script through questioning and appropriating students' ideas and words to engage in genuine dialogue that constructs understanding for students. In other words the teacher mediates the learning through the dialogue. Evidence of this kind of dialogue mediation to scaffold learning is evident in the data collected for this research and is discussed in detail in Chapters 4 and 5.

Activity Theory in History

Activity Theory can be related specifically to History teaching. Hedegaard (1999) states that the goal of History teaching is to support students to develop the "tools" to synthesise the central concepts of History so they can understand and analyse human activity in past and present societies. "This formulation is based on Vygotsky's (1978) characterisation of the relation of humans to their environment, as mediated by tools (physical and psychological), and on Wartofsky's (1990) characterisation of perception and cognition as formed by the cultural and historical traditions of representation" (Hedegaard 1999, p.283). She further argues that History teaching provides students with the psychological tools for understanding and analysing their own lives in relation to the world they live in, since they can draw on understandings gained from studying differences in societies in different historical periods. "It is important that the students acquire an understanding of historical narratives as centred on themes and based on historical methods" (Hedegaard 1999, p.284) so that they gain 'historical knowledge' which is interpreted through dealing with historical materials such as objects, documents and pictures. An activity-theoretical approach to History teaching is relevant as it models "*basic historical-conceptual relations*. The continuous elaboration and use of the conceptual models gradually gives the subject matter of history a *tool character*" (Hedegaard 1999, p.293, italics in original). She concludes by stating, "the main contribution of Activity Theory to History teaching consists in turning

History into a toolkit for children, both to relate to their past and to orient toward their future" (Hedegaard 1999, p.296).

This belief about History teaching is echoed in the words of the History teacher in whose classroom my data was collected as he summed up his first lesson on *What is History?* He stated that:

> *if I wanted to understand who I am as a person I've got to understand my history*
>
> *and this is why history is so important and why this word here is so important*
>
> *if I want to understand my country I've got to understand its history*
>
> *if I want to understand the world and the way it is and all the troubles and strifes and good things about the world I've got to understand its history*
>
> *if I can't understand modern politics*
>
> *unless I understand the politics of the past same thing*
> *so it is absolutely essential if I want to understand our world the world we live in now and the future and ourselves to understand the history of it.*

Finally, in this research, Activity Theory is examined as one theoretical framework (but not the only one) that can account for how students learn, or fail to learn, within an institutional setting (that is the classroom). While it is difficult to capture the multi-layered influences and complex interactions in a teaching and learning situation, Activity Theory enables the researcher to separately describe each of the interconnected elements to account for total practice, even practices that appear contrary to or are resistant to the mainstream cultural views. In this research, the Practice of Education (the activity) is realized through action (the goal) and operationalized through classroom practices.

Thus the application of an expanded cycle incorporating the notion of dialogism can contribute to a pedagogical theorising about the co-construction of knowledge that occurs in the classroom through specific teaching practices. "[An] activity system is by definition a multivoiced formation [and] an expansive cycle is a reorchestration of those voices, of the

different viewpoints and approaches of the various participants" (Engestrom 1999, p.35). However, despite the rich description of a culturally mediated activity, Activity Theory does not analyze in detail the ways in which a goal is achieved, that is, how students become apprentice historians, or account for aberrations in the activity, for example, some students not achieving the educational goal or even being resistant to the prevailing community views of the importance of education. Other theories, drawn from education, sociology and linguistics can be used to complement Activity Theory for the development of an interdisciplinary, socially constructed theory of pedagogy.

Applications of Activity Theory to this research

Activity Theory enables the researcher to examine how the interactions between teacher and students, and students and students, as well as their experiences/activities within a real life situation (the classroom) interact in the development of students' cognition and language.

In this research, Engestrom's expanded model (described earlier) has been conceptualised to describe a classroom context in which the teacher and students jointly construct knowledge.

This framework is applied to analysing first the study of History as a discrete subject in high school and then to analysing the first two lessons that it is argued in Chapter 4 form an Induction genre. This is shown in Table 2.1 and Table 2.2 respectively. As activity settings typically overlap and coexist in various relationships with others the description of the classroom contexts is designed to accommodate these multiple relationships.

> Each classroom participant, for instance, acts within an activity setting bounded
> by the classroom, which is a subset of different, coexisting settings: the
> classroom is part of a school, which is part of a district, which exists within a
> statewide system. At the same time, an English class is situated within a set of
> departmentally-governed English classes that are typically responsive to local
> and state English/language arts frameworks.
> (Grossman, Smagorinsky & Valencia 2002, p.5)

Table 2.1: History as curriculum subject in Activity Theory

Mediating artifacts:	– syllabus – texts on the topic – previous experience of teaching.
Subject:	– students and teacher.
Object:	– practice of historical methodology and application of the discourse of History.
Rules:	– "practices of schooling" – roles of students and teacher – expectations of behaviour – expectations of learning.
Community:	– students in the class – teacher as: member of History faculty in the school and upholder of particular ethos of school – school as: an institution which represents particular values and corresponding community expectations.
Division of labour:	– History as a separate subject – teacher as guide – students as apprentices
Outcome:	– Students apprenticed into the discourse of History and historical methodology.

History as curriculum subject specifies the *object* of the activity as being both the practice of historical methodology and the discourse of History with the teacher and students as *subjects.* In order for the *object* to be achieved, various mediating artifacts are drawn upon. The relationship between *subject* and *object* is impacted upon by the *rules* that are implicitly applied to the *community* in the context of schooling. History is recognised as a discrete subject in the curriculum through the *division of labour* that also recognises the relationship between teacher and students as one of "semiotic apprenticeship". Each of these elements interacts to account for changes that lead to the final outcome of students being enculturated into the discourse and methodology of History.

History as curriculum subject in Activity Theory represents the overall system goals of the activity. The instantiation of this activity goal is seen in its application to the first two lessons of the unit, termed the Induction genre in Table 2.2 following.

Table 2.2: The Induction genre in Activity Theory

Mediating artifacts:	– dialogue consisting of interpersonal discourse between students and teacher and students and students as well as students' intrapersonal (egocentric speech) discourse. This includes discourse strategies to support learning – written notes on board – worksheets to read and answer questions – other semiotic systems to support learning – gesture, voice, gaze, timing, underlining on board.
Subject:	– students and teacher (as participants in the co-construction)
Object:	– induct students into the discourse of History and the process of historical methodology through the two Induction lessons *What is History?* and *The pyjama mystery.*
Rules:	– paying attention and participating in discussion – taking turns and not calling out responses – doing assigned reading – asking questions for clarification.
Community:	– teacher as guide and students in the class as apprentices.
Division of labour:	– students and teachers together, through dialogic interactions, co-construct understanding of the study – teacher and students, students and students respond to each other – teacher is in a position of power – in group work situations (not applicable in these two lessons) students take up roles as recorder, reporter and questioner in equal relationships.
Outcome:	– students begin to be apprenticed into the discourse of History and historical methodology.

In the Induction genre, the *object* of the lessons is achieved through the teacher and students as joint participants *(subjects),* operating through the *mediating artifacts* of a dialogic exchange and other semiotic systems to co-construct knowledge about both how historical methodology is enacted and the use of the discourse of History for discussing historical events. With the *community* of the classroom, the teacher establishes the *rules* of the class and through the various tasks establishes the *division of labour.* While ultimate control of the stages of the lesson and the activities rests with the teacher, students are at times given control through group work situations or individual project design. Through these types of tasks "handover" is made possible and students begin to achieve the *outcomes* of the lessons. In subsequent lessons, the examples from the elements in the

expanded Activity model in Table 2.2 continue to be applied as the means by which the apprenticing process unfolds.

Continuing with applications of Activity Theory to this research, the notion of an expansive cycle can be applied to the cyclic development of ideas within a single lesson and after, the cumulative understandings of content and the process of historical methodology over a unit of work and beyond. Through activity, students are acculturated into the discourse of History and methods of historical investigation which are realised externally through different tasks and discussion in the classroom. It is intended the next stage is internalisation of these understandings which become knowledge about the multiple facets that constitute the study of History. Thus the application of an expanded cycle incorporating the notion of dialogism can contribute to a pedagogical theorising about the co-construction of knowledge that occurs in the classroom through specific teaching practices.

Part 3: Language as a semiotic system

Section 1: A functional model of language

The discussion around language as a semiotic system is posited in Systemic Functional Linguistic (SFL) theory. The theory on which SFL is based follows the European functional tradition drawing largely on Firth and his system-structure and the social anthropologist Malinowski, the ethnographic-descriptive tradition in linguistics of Saussure, Hjelmslev and the Prague school, as well as the linguistic anthropologists Sapir and Whorf. Its foremost theorist is Michael Halliday "who has devoted much of his career to exploring the reciprocal relationship between language and culture" (Wells 1994). Halliday began his work on SFL in the 50s and 60s and he and other systemic scholars who have worked with or around him, mainly in Australia, continue to develop this theory (Halliday & Hasan 1976; Martin 1992; Eggins 1994; Matthiessen 1990/2; Painter 1994; Macken-Horarik 1994).

SFL's model of language is based on the view of "language as a social semiotic system". Semiotics is the study of sign systems and linguistics is a type of semiotics used to create meaning through language which is part of a social or cultural system of meanings. The

term "language as a social semiotic" relates to a particular conceptual framework and suggests a particular interpretation of language within that framework: "it means interpreting language within a sociocultural context, in which the culture itself is interpreted in semiotic terms – as an information system, if that terminology is preferred" (Halliday 1978, p.2).

Two theoretical sources have provided the foundations for this functional-semantic approach to language. The first is the notion of the situation creating the context for language from Malinowski and Firth's work, while Sapir and Whorf brought attention to the notion of culture by theorising that thoughts and behaviour are determined by, or at least partially influenced by, language. Together, they provide a context in which a meaning-making text is constructed through particular grammatical choices. This research focuses on the specific grammatical choices relevant to the context of the situation of the History classroom and the context of the culture of the educational setting made by the teacher in 'apprenticing' his students into the discourse and methodology of the subject.

Even though systemic linguists may have different research emphases or apply SFL to different contexts, (such as education, sociology, literary theory and computational linguistics), they all have in common an interest in how people use language to make meaning.

> We can characterise SFL theory as having a strong commitment to the view that language study should focus on meaning and on the ways in which people exercise choices in order to make meaning.
> (Christie & Unsworth 2000, p.2)

Systemic linguistics advances four main theoretical claims about language: firstly, language is functional, and its function is to make meaning; secondly, meaning is influenced by the social and cultural context in which meanings are exchanged; thirdly, the process of using language is a semiotic process and finally, language is a process of making meaning through particular grammatical choices (Eggins 1994). As a complex system of choices available to construct meanings in various contexts, SFL provides a robust theory of language with which to analyse classroom discourse.

Halliday's social theory of language recognises all texts are created within a social context (context of culture) and within that context, language is used in many more specific contexts or situations. Each context of situation is characterised by a particular register of language that considers the three variables of the situation: the *field* of the activity and what is happening; the t*enor* of the social relationships involved, the status of the interactants and amount of contact; and the *mode* of the language used that takes account of the distance in time and space between the interactants and refers to the choice of the channel on the spoken-written continuum. In the functional model of language, language is represented as having three major purposes that are realized through grammatical choices and which take account of the register variables in order to create meaning: "human beings construe experience in the forms of grammar" (Halliday 1999, p.21). Grammatical selections are made within the system to construe individual instances of experience "within and by reference to this ideational semantic space" (Halliday 1999, p.21) which is known as the ideational metafunction. The grammar does not only construe, it also 'enacts' interpersonal relationships known as the interpersonal metafunction. In this metafunction "the grammar constitutes both society and, through society, the individual self; instantially, the grammar enacts dialogic roles and the ongoing 'personification' of 'I' and 'you'" (Halliday 1999, p.21). Finally, the textual metafunction orchestrates the ideational and interpersonal by creating the texture. It "creates the 'flow of information', the semiotic mode of activity" (Halliday 1999, p.21). Table 2.3 summarises the relationship between metafunctions, grammatical choices and register variables.

*Table 2.3: Relationships between metafunctions, register variables and grammar
 in SFL theory*

IDEATIONAL METAFUNCTION	INTERPERSONAL METAFUNCTION	TEXTUAL METAFUNCTION
Language for construing experience and showing logical relationships	Language for encoding interactions	Language for constructing text
Experience is represented in terms of what is happening, participants involved and circumstances that contribute to what is happening	Relationships are established involving meanings about participant roles and attitudes.	Language organises meanings into spoken or written text.
These meanings reflect the field.	These meanings reflect the tenor.	These meanings reflect the mode.

The language choices that people make are based on understandings about what is appropriate in a particular cultural context and which language choices best meet their needs. Register however, does not account for the sequential organization of meanings that together enact a specific, culturally recognisable activity type such as buying an item or writing a letter of complaint. The concept of genre elucidates this. Genre theory (Martin 1984; Kress 1985; Hasan 1985) is an extension of earlier work on register and places its emphasis on "social purposes as a determining variable in language use" (Martin, Christie & Rothery 1994, p.233). Martin defines genre as:

> a staged, goal-oriented social process…*social processes* because members of a
> culture interact with each other to achieve them; as *goal-oriented* because they
> have evolved to get things done; and as *staged* because it usually takes more
> than one step for participants to achieve their goal.
> (Martin, Christie & Rothery 1994, p.233)

Genres have specific forms and meanings and consist of elements that are both obligatory and optional and constitute the process and sequence in which they occur. They derive from and encode the functions, purposes and meanings of the social occasions (Kress 1985; Wells 1999). Genres add stability to the culture while at the same time they are flexible enough to be part of social change (Martin, Christie & Rothery 1994). By drawing on the concepts of text and context and the grammatical resources used to create meaning and genre theory, a detailed analysis of how meaning is constructed through classroom discourse is possible. Halliday's work also provides a theoretical framework for investigating classroom interactions and the development of knowledge. As he argues, "language is the essential condition of knowing the process by which experience becomes knowledge" (Halliday 1995, p.65).

Halliday's view on the relationship between language and learning shows compatibility with Vygotsky's theory about the role of language and other 'psychological tools' in intellectual development. As Wells (1999) states, both can contribute to a theoretical framework that considers the central nature of linguistic discourse in teaching and learning.

> When children learn language, they are not simply engaging in one type of
> learning among many; rather they are learning the foundations of learning

itself. The distinctive characteristic of human learning is that it is a process of
making meaning – a semiotic process; and the prototypical form of human
semiotic is language. Hence the ontogenesis of language is at the same time the
ontogenesis of learning.

(Halliday 1993, p.93)

SFL has had a significant influence on literacy education as evidenced for example in the
work of ten academics known as the New London Group. They propose a "pedagogy of
multiliteracies" which acknowledges the evolution of language in the 21st century to
include visual as well as multi-modal texts and for this purpose they draw on the theory of
SFL to provide:

an educationally accessible functional grammar; that is, a metalanguage that
describes meaning in various realms. These include the visual, as well as the
multi-modal relations between different meaning-making processes that are
now so critical in media texts and the texts of electronic multi-media.

(New London Group 1996, p.77 cited in Unsworth 2000, p.19)

The grammar of SFL has been applied to multimodal texts by Gunter Kress, a member of
the New London group, and his colleague Theo van Leeuwen (1996). This has resulted in a
functionally oriented visual grammar that relates to functional descriptions of verbal
grammar (Unsworth 2001). The functional semiotic accounts of images adopt the
metafunctional organization of meaning-making resources from SFL and appear as
Table 2.4.

Table 2.4: Metafunctions in visual grammar (Unsworth 2001, p.72)

Representational/ideational structures	Interactive/interpersonal verbal and visual resources	Compositional/textual meanings
These structures verbally and visually construct the nature of events, the objects and participants involved, and the circumstances in which they occur.	These resources construct the nature of relationships among speakers/listeners, writers/readers, and viewers and what is viewed.	These meanings are concerned with the distribution of the information value or relative emphasis among elements of the text and image.

This analysis enables the researcher to explore semiotic systems other than language (gesture, voice, relationships between key words or ideas on the board created through arrows, lines and underlining) to describe how these systems also contribute to developing student understanding and has been drawn upon in this research.

As already discussed, language is seen as a social semiotic and as such provides a sophisticated and complex system for constructing and sharing meanings (Hammond 2001). Halliday and Matthiessen (1999) argue the unquestionable interconnectedness of language and knowledge and this has significant implications for how teachers use language to construct educational knowledge.

> We contend that the conception of knowledge as something that exists independently of language, and may then be coded or made manifest in language, is illusory. All knowledge is constituted in semiotic systems, with language as the most central; and all such representations of knowledge are constructed from language in the first place…Knowledge and meaning are not two distinct phenomena; they are different metaphors for the same phenomenon, approaching it with a different orientation and different assumptions.
> (Halliday & Matthiessen 1999, p.3)

Discourse

In the section on Activity Theory, the role of language as a semiotic mediating tool was discussed. In this section, further discussion about how language is used in developing the discourse of different subjects occurs. The socio-cognitive theorist James Gee (1992) states that meaning is made not in the head, but in social practices which are in part created by Discourses (with a capital 'D'). These Discourses are characteristic ways of thinking and behaving and it is through Discourses that individuals are identified as being members of a particular group and operating within certain roles that are apportioned to them as they participate in the social practices of the group.

> Each Discourse involves ways of talking, acting, interacting, valuing, and believing, as well as the spaces and material 'props' the group uses to carry out

> its social practices. Discourses integrate words, acts, values, beliefs, attitudes,
> social identities, as well as gestures, glances, body positions, and clothes.
> (Gee 1992, p.107)

However, a Discourse is not a single entity. There are "multiple and complex relationships among Discourses, individuals, and their actions" (Gee 1992, p.108). He identifies two kinds of Discourse, primary and secondary Discourses. Primary Discourses are those which relate to primary socialisation within a family and to which people are apprenticed early in life. Secondary Discourses are those to which people are apprenticed as part of their socialisation within groups and institutions outside early home and peer-group socialisation, for example, churches, gangs, school, offices. Discourses display the values and viewpoints of the group and as such are inherently 'ideological'. They show who *is* and *is not* a member of a group and can also mark members of the group as 'higher' or 'lower'. However, he argues: "They are not mastered by overt instruction,…but by enculturation ('apprenticeship') into social practices through scaffolded and supported interaction with people who have already mastered the Discourse" (Gee 1992, p.114).

Learning is measured by socio-cognitive theorists such as Gee (1990, 1992) and Wertsch (1991) in terms of the appropriation of social discourses rather than the construction of mental representations of an objective reality (Hicks 1996).

> Through the child's participation in culture-specific social events, the child
> learns how to *be* a student, family member or church attender. These culture
> specific ways of *being* entail the use of socially appropriate discourse genres
> and, indeed, socially appropriate ways of acting, valuing and thinking.
> (Hicks 1996, p.105)

In the school context, being familiar with the appropriate Discourse that includes ways of speaking as well as ways of thinking means learners can actively participate in learning situations that form a particular literacy practice. As Scribner and Cole (1981) state: "Learners' exposure to the patterns of speaking and reasoning in formal instructional settings gives rise to a particular set of discourse and cognitive skills" (Scribner & Cole 1981 cited in Wertsch & Tulviste 1998, p.23).

A distinction between acquisition and learning is made by Gee (1992) which has implications for the role of teachers in the school context. He states that acquisition is a process of acquiring something that occurs without formal teaching. In other words, something is acquired subconsciously by exposure to models, trial and error and practice within social groups. Learning on the other hand is conscious learning and requires teaching (although not necessarily by a teacher as such) or through experiences that trigger conscious reflection. As part of the process of learning, there is explanation and analysis and breaking down of the thing to be learned into its component parts. Stephen Krashen (1981) also uses these same terms in the area of Second Language Acquisition theory and there is a strong similarity between the way they are used in both fields. Krashen asserts that acquisition refers to an unconscious process that involves the naturalistic development of language proficiency through understanding language and through using language for meaningful communication and learning refers to approaches in which conscious rules about a language are developed.

The importance of apprenticeship in learning has already been introduced in the sections on ZPD and scaffolding. It is through the process of apprenticeship within a specific social practice that Gee asserts a Discourse is acquired, not learned. The teacher's role then requires her/him to provide an environment where the students are apprenticed into the ways of thinking as an historian or a scientist or a mathematician, partly facilitated through using the language appropriate to the subject area. Once the apprenticeship process has begun, teaching is used to support learning. What actually constitutes the language of History, the subject area in this research, is discussed in detail in the next section.

It is important to stress that in the classroom, acquisition does not have to be complete before learning can take place and that students continue to acquire the Discourse of a subject over an extended length of time. While the students are in the process of acquiring the Discourse of the subject, the teacher introduces activities to extend students' topic knowledge and this is where explicit learning occurs. In many instances, an activity can simultaneously support students to acquire the Discourse of a subject and learn about the subject. Conscious learning then helps the learner to analyse and manipulate content knowledge.

> As a Discourse is being mastered (or after is has been) by acquisition, then, of course, learning can facilitate 'metaknowledge', but learning can facilitate nothing unless the acquisition process has already begun. You cannot overtly teach anyone a Discourse, in a classroom or anywhere else. This is not to say that acquisition can't go on in a classroom but that if it does, this isn't because of overt 'teaching', but because of a process of 'apprenticeship' and social practice…Classrooms that do not properly balance acquisition and learning, and realise which is which, and which student has acquired what, simply privilege those students who have begun the acquisition process at home, engaging these students in a teaching/learning process, while the others simply 'fail'.
>
> (Gee 1992, p.114-5)

As students engage with more complex ideas, they need to engage in abstract thinking. Abstract tools to solve problems are required along with a linguistic strategy that will allow abstract thinking to be articulated. David Butt (1998) refers to this strategy as critical abstraction, the discourse equivalent of an abstract tool. Critical abstraction includes "all the semiotic procedures by which a community explains, models, calculates, maps, schematises, graphs, pictures, deduces, and infers its propositions concerning reality" (Butt 2000a, p.1). Butt elaborates by arguing that it is not possible to think without a sign of some kind, and a sign of some kind cannot exist without cognitive engagement, therefore the study of semiotics is a way of studying the ways of thinking in a community (Butt 2000a). This view accords with Vygotsky's assertion of the importance of language as a tool for human thinking and social development and Mercer's (2000) notion of "interthinking" the process whereby language is the medium through which participants jointly construct understanding that would not be achieved if each worked independently. Simply stated it is the idea of the sum being greater than the individual parts.

While children can acquire the language of the home community or social language, they need more sophisticated language for the abstract concepts that underpin the later years of schooling. The difference between the linguistic and accompanying conceptual demands of these two types of language was first documented within the area of second language

acquisition by Cummins (1979). He asserted there were two types of language that were used, the basic interpersonal communicative skills (BICS) and cognitive academic language proficiency (CALP). For second language learners BICS took about two years to acquire, while CALP required formal teaching and took between five to seven years to acquire. Although Cummins no longer uses these terms they have been enthusiastically adopted by English as a Second Language teachers into the 'everyday' talk as a way of differentiating between 'social' and 'academic' language. Second language development is not within the scope of this study, and the majority of students within the study are native speakers of English, however, recognising that academic language is significantly more complex than social language is important. It demonstrates that more complex thinking about abstract concepts and therefore more complex language is required as students move into and through secondary school.

To clarify a phenomenon, such as social structures in a particular society or how to read a topographical map, teachers typically use a combination of verbal explanation and nonverbal representations such as tables, maps and diagrams. These various multimodal representations provide the potential for insight and enable different 'views' of a phenomenon or principle. This supports students in creating a critical abstraction or mental understanding (Butt 1998). Teachers also attempt to develop understanding through critical abstractions by relating content to students' own experience thus finding "a common experience at the root of uncommon sense" (Butt 2000a, p.7). Butt further asserts there are two basic semantic types of critical abstractions. They either involve the teacher in substitution, that is one substitutes the concept under discussion for another concept which is similar in the critical respect; or, in relevant combination, placing the concept in a context (linguistic or cultural) from which the function of the idea might be inferred by the students (Butt 1998, p.18). Both types are seen regularly in classrooms and relate to the discourse strategies of analogy and anecdote identified in this data and discussed in Chapter 5.

Critical abstractions are a linguistic resource. They are one of the tools teachers can use to support students in their learning. However, Butt asserts that critical abstractions are sometimes absent from the discourse of classroom activity: "As a resource for teachers,

however, critical abstractions are a latent pattern in the organization of discourse" (Butt 1998, p.15). This means a teacher's ability to manage critical abstraction lays 'hidden' because it "has not been easy to allocate to any one pattern of linguistic order such as rhetorical performance" (Butt 1998, p.21). Since they are essentially 'invisible' they cannot be explicitly taught in teacher training institutions hence there is great variation in classrooms, ranging from some teachers having an explicit metadiscourse that builds critical abstractions, to total lack of this kind of discourse with a focus on text 'regurgitation' rather than 'first principle understanding' of a concept. Through this research, some of the linguistic resources that enable the classroom teacher to demonstrate the explicit nature of critical abstraction to students are identified.

The discourse of History

Unsworth (2001) states that research has shown (Richards 1978; Applebee 1981; Street 1984; Davies & Green 1984; Gee 1990; Martin 1993) subject areas have their own characteristic language forms and literate practices. He adds that SFL "contributes a resource for developing students' awareness both of the fundamentally social nature of the literate practices they are engaged in and of how they are socially positioned by these practices" (Unsworth 2000, p.245).

A considerable body of research has already been conducted on the discourse of different subject areas using SFL (Halliday & Martin 1993; Coffin 1996, 1997; Humphrey 1996; Rothery 1996; Veel & Coffin 1996; Martin & Veel 1998; Unsworth 1999; Veel 1999). The work of J.R. Martin and his colleagues from Sydney University, through the joint project *Write It Right* with the Metropolitan Disadvantaged Schools program within the New South Wales Department of Education, researched various subject areas including the discourse of History.

In early research into the discourse of school History, the genres that were privileged were those of explanation and argument rather than narrative (Eggins et al. 1992). Later work by Coffin (1996) showed a general shift from chronicling History, which draws on recounting genres, to reporting, explaining and then 'arguing' History which require more complex genres. History interprets events and then forms generalisations based on these events. As

Unsworth states: "This involves distancing language from the then-and-there, and is largely achieved through marshalling the resources of grammatical metaphor" (Unsworth 2000, p.247). (The grammatical resource grammatical metaphor is discussed in Chapter 3). Chapter 4 discusses in detail the various "designed-in" and "contingent" discourse strategies the History teacher in this research uses to begin the process of interpreting and generalising concepts from historical events.

History is a multi-layered and cognitively complex discipline. As Veel and Coffin (1996) state:

> In studying school history successive forms of consciousness [realised in language] both assume and subsume earlier forms of consciousness; each form stands on the shoulders of the preceding one, both developing and reinterpreting the social order it represents.
> (Veel & Coffin 1996, p.216)

As genres shift from chronicling history to reporting then explaining and finally arguing History there is a "progressive increase in lexical density, grammatical metaphor, abstract/institutional participants and causal relations" (Unsworth 2000, p.247-8). The discourse of History is not essentially technical (Martin 1993). What makes it complicated for students is the abstraction of the language created by the use of grammatical metaphor. Also evident in historical writing is "buried reasoning" (Martin 1993) or as Unsworth states "the metaphorical realisation of cause-effect relations" (Unsworth 2000). When a classroom teacher orally unpacks the 'buried reasoning' of written work, s/he provides her/his students with everyday understandings that then can form the basis of more complex thinking. For example in this research, the teacher's discussions that lead to a co-construction of knowledge about such things as why the Nile river was important and why the Pharaoh had ultimate power clearly showed the students the cause and effect relationships. This understanding then acts as a foundational understanding that can later be activated when reading more complex and abstract historical texts. For students to be successful in school History they need to gain control of an increasing number of genres and "in order to do this students need to follow a path of language development whereby

knowledge gained at an earlier point in their studies is reformulated in increasingly abstract ways at later points" (Veel & Coffin 1996, p.191).

Section 2: Pedagogical theory underpinning the data

The aim of this section is to investigate the pedagogic approach taken in the History classroom from which this research is drawn and situate it within a theoretical, pedagogical context. One significant theoretical approach that has been relevant to this research has been the work of systemic linguists Jim Martin and Frances Christie both of whom have drawn on the work of sociologist Basil Bernstein. Descriptions of different types of pedagogic theories (Martin), the notions of macrogenre (Christie) and instructional and regulatory discourse (Christie and Martin) have informed this research in relation to the way the History teacher supports students' understanding in the classroom through "designed in" and "contingent" scaffolding strategies. He firstly inducts the students into historical discourse and methodology through the building of a foundational layer in the first two lessons termed the Induction genre, then consolidates their understanding in the subsequent lessons. Key concepts in pedagogic theory and discourse, related to the above are discussed in the following section.

Pedagogic theory

Martin (1999a) draws on Bernstein's (1990) work to describe different types of pedagogies illustrated in Figure 2.3

Figure 2.3: Different types of pedagogies (after Bernstein 1990, p.213)
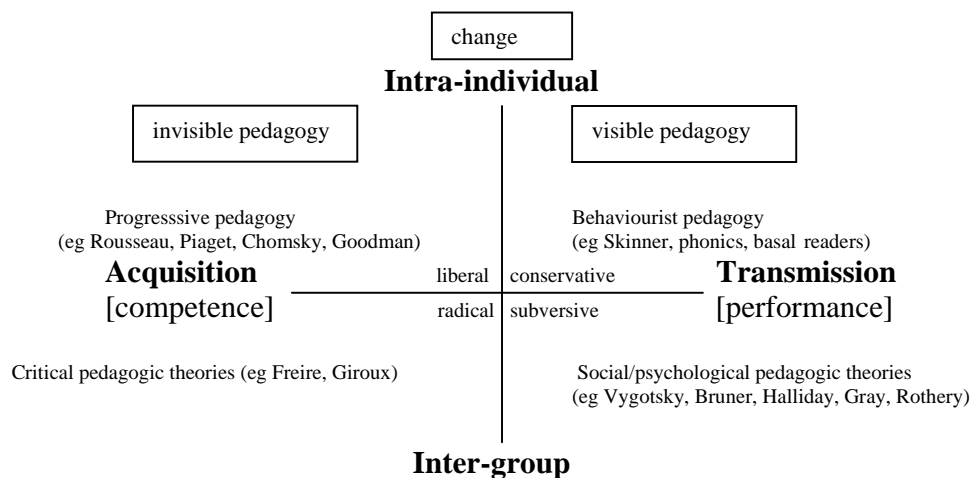
The vertical dimension relates to whether the instruction theory is internal to the individual (*intra-individual*) or focuses on the relationships between social groups (*intergroup*). With the *intra-individual*, the theory would attempt to explain the conditions for change within the individual, while for the *intergroup*, the theory explains conditions for change in the relations between social groups. The horizontal dimension shows whether the theory expressed a pedagogic practice with an emphasis on acquisition or a logic of transmission. In a logic of acquisition Martin argues: "the focus is upon the development of shared competences in which the acquirer is active in regulating an *implicit* facilitating practice. In the case of a logic of transmission the emphasis is upon *explicit* effective ordering of the discourse to be acquired by the transmitter" (Martin 1999a, p.124).

Martin further argues that the genre approach, an approach that espouses significant build up of field knowledge, explicit teacher modelling and joint construction of specific text types, has been a visible and interventionist one. Central to this pedagogy has been "the notion of guidance through interaction in the context of shared experience" (Martin 1999a, p.126). The classroom data in this research does not suggest a visible pedagogy being adopted by the History teacher as his approach is more a pedagogy emphasising a logic of acquisition of competencies in a shared context. However, an outcome of this pedagogy, apart from the development of students' conceptual understanding is an apprenticing of students into the acquisition of the discourse and methodology of History through' unconscious' enculturation pedagogy or what Kirshner refers to as "inadvertent learning" (Kirshner 2002). (This term was introduced in Chapter 1). It should be noted however, that the students in this data sample were able to successfully accommodate this type of pedagogic practice because they had already been acculturated into the practices of academic discourse through their home and previous school experiences. Many students from disadvantaged backgrounds, such as second language learners of English and users of non-standard English, have not the same exposure to the type of discourse competences that supports success at school, and for these students the visible, interventionist pedagogy provided by the genre approach is crucial for their access to privileged discourses of the mainstream culture. Also, even though the students in this study were privileged users of language, it can be argued that they would still benefit from explicit teaching of the

different genres relevant to the study of History which were discussed in the section on the discourse of History. Therefore I argue, for the classroom teacher in this study, a more visible pedagogy with explicit teacher awareness of the various genres and discourse strategies to support students' learning would enhance his existing pedagogic practice.

Martin and his colleagues concerned themselves with describing a pedagogy for teaching literacy that would provide access to disenfranchised groups of students who had not acquired discourse competences. In terms of semogenesis, which is the creation of meaning through logogenesis (the unfolding potential of a text as it develops), ontogenesis (unfolding of the individual over time) and phylogenesis (the unfolding of meaning potential over historical time), Martin and his colleagues focus on three dimensions of change which can be related to the lessons in this research. These dimensions explicate the apprenticing process undertaken by the History teacher from a theoretical perspective. The three dimensions are summarized in Table 2.5

Table 2.5: Dimesions of change in semogenesis (Martin 1999a, p.124)

- logogenesis   'instantiation of the text/process'   **<u>unfolding</u>**
- ontogenesis   'development of the individual'   **<u>growth</u>**
- phylogenesis   'expansion of the culture'   **<u>evolution</u>**

Phylogenesis relates to the evolution of a culture and provides the environment for ontogenesis which is the development of an individual's meaning potential. This in turn provides the environment for logogenesis, the unfolding of a text; conversely, logogenesis provides the material for ontogenesis which it turn provides the material for phylogenesis (Martin 1999a).

In this research, the first two lessons *What is History?* and *The pyjama mystery* are the logogenetic stage. This stage is the "process by which a text changes character, generating new meanings made possible by the cumulative building of the text and its emergent understandings" (Christie 1999, p.160-161). In the logogenetic stage there is the unfolding of both the discourse of History and ways of thinking like an historian in applying a specific methodology to the investigation of any topic. Both lessons together construct an Induction genre into the study of History which 'unfolds' for the students and in the Macrogenre lessons of *Egypt 1* and *2* (discussed in Chapter 3) the students move to

'growth' in ontogenesis. The rest of the unit on Egypt supports students in their growth of studying historical content as apprentice historians.

During the lessons observed there was no explicit modelling of written text. The purpose of the lessons appeared to be focussing on students' understanding of the process of historical inquiry and this required mostly oral development. By making explicit what the study of History involves, the classroom teacher provides students with a shared framework with which to consider historical study, that is *who, what, when, where etc*. It appears that guidance through interaction in the context of shared experience provides students with strong foundations to be able to transfer knowledge about the process of historical inquiry to further study. Students move from an everyday or 'commonsense' understanding of historical inquiry to a technical or 'uncommonsense' (Martin 1993) understanding. In History, the term technical does not specifically relate to increased technical vocabulary but rather an increase in abstraction and move from a focus on people to one of events and causality. Evidence for this appears in the first Egypt lesson although because the study did not extend beyond the first topic it can only be suggested that students continued to access the process they were explicitly taught in the first two lessons. This idea is supported in Christie's (1993; 1999; 2000) work. She states an important measure of the logogenetic growth in successful Science and Geography macrogenres will be the way students acquire the technical language and deploy it with increasing independence (Christie 1999, p.168). She further elaborates that no such use of technical language is evident in English but that "there is a shift logogenetically by the end of the macrogenre, such that the students' language is marked by a capacity to offer abstractions about life, but this requires no technical language" (Christie 1999, p.168). The same shift occurs in History as well and evidence of students' uptake of the process of historical inquiry and the key approaches required can be seen in the macrolessons on *Egypt 1* and *2* discussed in Chapter 5.

In order to investigate how much understanding of the process of historical inquiry students were able to recall and apply to later studies in History, four of the students from the Year 7 group were interviewed as they were beginning Year 11. They were asked a number of questions relating to what they remembered about History in Year 7; what skills they learned from their History teacher and whether they applied these skills in later studies;

what they thought the study of History is and finally if they were going to continue with the subject History in their senior years (History is not compulsory in Years 11-12). The four students are identified as Sean, Jason, Ben and John (not their real names).

In answer to the question about what they remembered about History in Year 7, Sean replied he remembered the topic was Ancient Egypt then Ancient Greece and that they did a newspaper assignment; Jason remembered they built a pyramid; Ben recalled the assignment they did and John remembered they did a number of activities, learned facts and looked at sources. In response to the skills they learned, Ben recalled the need for reliability, that context is important, that there are different points of view in History and a decision about what is useful has to be made. He also said he remembered a lot of notes were given, there were primary and secondary sources and they were made to think. John remembered the idea of empathy and thinking about why something happens, giving reasons and looking at different viewpoints. Sean remembered learning about primary and secondary sources and Jason recalled it required memory.

In responding to the question *what is the study of History?,* the students echoed what they were taught in Year 7. Jason said History is studying the past and present and how they relate and learning from past mistakes. Sean said History is about what occurred in the past, Ben said History is investigating, you had to think about implications and look for new angles and John stated that History is looking for why something happens, finding the reasons, looking at different viewpoints. The responses to whether they were going to continue with History as a study in Year 11 were as follows. John was not continuing as he had other subject preferences (Sciences); the other three were continuing. Sean said he enjoyed the subject, found it broadening and was doing well and he added that it makes you understand better the world today. Jason enjoyed reading about the past and how it applies to us today. He also added it was fun. Ben said History was challenging, makes you think, is interesting and in studying History you can study human behaviour, how people in the past acted and how people act today.

While listening to the students as they responded to the questions posed, there was a strong sense that the History teacher had instilled in the students not only fond memories of studying History, but also a sense of what the study of History is and why it is still relevant

today. Hearing many of the teacher's phrases appropriated by the students for their own uses in new contexts I believe is the ultimate test of how successful the enculturation of these students has been.

Pedagogic discourse

Further theoretical perspectives that inform this research are drawn from Basil Bernstein whose work addresses questions of pedagogic relations and pedagogic discourse and Fran Christie who has applied Bernstein's theories to investigations into the language of classroom interactions and learning. Christie describes classroom talk as a form of pedagogic discourse "in which persons are apprenticed into particular pedagogic subject positions, involving adoption of methods of working, and ways of addressing and defining issues of a kind characteristic of the discourse concerned" (Christie 2000, p.185). A unit of work in a subject typically consists of a sequence of lessons with a specific goal for each lesson that contributes to the overall goal (macrogoal or syllabus outcomes) of the unit. Christie refers to this sequence or cycle of goal-oriented lessons as a curriculum macrogenre "a cycle of curriculum genres, all linked in relations that, metaphorically, reflect the relations of taxis or of dependency found in Halliday's (1994c) account of clause complex relations" (Christie 1999, p.160). This term has been adopted in this research (refer to Chapters 3 and 4) to describe the various lessons on the topic of Egypt as each lesson contributes to the overall unit outcomes.

A curriculum macrogenre is realized through pedagogic discourse which consists of two registers, the *regulative* discourse to do with the overall goals of the pedagogic relationship and the *instructional* discourse to do with the content being taught (Christie 2000). Although curriculum macrogenres vary according to the age of the students and the subject being taught, Christie has generalised that "the regulative register is dominant in the opening stages of the macrogenre, and henceforth at any points where it is necessary to clarify and define goals" (Christie 2000, p.185-6). As the lessons progress the *instructional* register dominates with the *regulative* register operating increasingly more in the background. With the development of shared understanding and "with the growth of the classroom text, there will be a process of logogenesis: an unfolding of the text in such a

manner that a kind of momentum builds as the students move towards the capacity to use language to represent new understandings" (Christie 2000, p.186).

According to Bernstein, what makes pedagogic discourse possible is the 'pedagogic device' which "acts as a symbolic regulator of consciousness…It is a condition for the production, reproduction and transformation of culture" (Bernstein 1996, p.52). It enables "pedagogic communication" which is realized through internal rules. The device consists of an "intrinsic grammar of a pedagogic discourse", that functions through three sets of interrelated rules: distributive, recontextualising and evaluative. The distributive rules control relationships between social groups. They produce specialised forms of knowledge, consciousness and practice, and are responsible for the distribution of these to different social groups. The recontextualising rules control the development of pedagogic discourse and the evaluative rules produce a "a ruler for consciousness" (Bernstein 1996, p.43) of the pedagogic discourse (Christie 1999).

Christie summarises these internal rules for pedagogic discourse and their relationship with instructional and regulatory register as follows:

> A pedagogic discourse 'embeds rules which create skills of one kind or another and rules regulating their relationship to each other, and rules which create social order' (Bernstein 1996, p.46). The discourse that creates skills and their relationships is termed the 'instructional discourse', while the moral discourse which creates order, relations and identity is the 'regulative discourse'. The instructional discourse is said to be embedded within the regulative discourse. (Christie 1999, p.159)

Rather than the *instructional* discourse being embedded within the *regulative* discourse, it can be said that one discourse gives voice to another and so the regulative discourse projects the instructional one (Martin 1999b). Christie supports this view and refers to Halliday's (1981, 1982) argument that "a text may be thought of metaphorically as operating like a clause. Hence, it is argued that the *regulative* register projects the *instructional* register, functioning rather as a clause of speech or of thinking does, when it projects another clause" (Martin 1999b, p.161).

The teacher' role in recontextualising the discourse is to 'relocate' discourses from sites beyond school and transform them through instructional discourse for the specialised pedagogical purposes of schooling. How the discourse is introduced, paced and sequenced is controlled by the teacher through the regulative discourse (Christie 1999). Pedagogic discourse can be situated within the elements of Activity Theory by regarding the *instructional* discourse as *object* which is projected through the teacher's use of *regulative* discourse. The *regulative* discourse relates to the *distribution of power* element.

Martin (1999b) suggests an additional aspect in the recontextualising principle gleaned from his work with the Disadvantaged Schools Program in Sydney in the late 1990s. Named the social semiotic instructional discourse, SSID, it was a second instructional discourse that enhanced existing literacy pedagogy. In simple terms this meant introducing explicit knowledge about text in social context that could be deployed throughout the pedagogic cycle" (Martin 1999b, p.143). There is no evidence in the data collected that the History teacher in this research provided this type of discourse. It is suggested that, while the oral support provided by the teacher through questioning and elaboration of student responses provided a scaffolding technique for students to understand the process of historical inquiry, there was no explicit support provided about how to write historically appropriate texts. It seemed that the teacher did not have a metalanguage to discuss this aspect in any explicit way and so the written aspect of the students' work in History remained largely invisible as already stated in the previous section. It is likely that the students in this classroom, coming from backgrounds where the literacy practices of home were congruent with school practices, were able to fulfil the written requirements of the subject. As David Rose states "children from literate middle-class families are already prepared to engage in these decontextualised forms of discourse before they arrive at school, and as they progress through the sequence, their discursive experiences of home and school may be mutually reinforced" (Rose 1999, p.224-5). This view has been supported by other studies (Painter 1986; Williams 1999; Cloran 1999); however it is suggested that explicit teaching that makes visible the inherent structure of a subject and its accompanying language is of benefit to all students, even those already possessing decontextualised or non-subject specialised forms of discourse.

Conclusion

This chapter has presented the theoretical foundations upon which this research has been based to address the research questions stated in Chapter 1. In drawing on theories from different disciplines, socio-cognitive psychology, sociology, education and linguistics, this research has investigated firstly the social nature of learning and how secondly, socialisation or acculturation of learners into a particular discourse community is enacted. The centrality of language to learning has been established and discussion about how the process of education is mediated by discourse is considered from Vygotskian and neo-Vygotskian perspectives as well as Activity Theory. The notion of teaching as activity with the classroom as an activity site has been applied to the data in this research to demonstrate the nature and development of students as they appropriate the discourse and methodology of History. The nature of scaffolding and the importance of dialogism as a tool for learning including the notions of revoicing, appropriation and contingency have also been discussed to theoretically contextualize the day to day practices of a classroom teacher in supporting students' learning. The establishment of language as a social semiotic also forms a significant part of this chapter, as this theory is central to this research. It situates language use within a sociocultural context that focuses on how language is used to make meaning and by association how it enables learning to occur. The use of other semiotic modalities other than language, for example visual and gestural, and the ways in which they actively support the construction of knowledge has also been discussed. Different types of pedagogic theories have also been presented and the pedagogical practices evident in this research have been contextualized within a particular pedagogic theory. It has been argued however, that a more explicit, performance-based theory (related to Martin's (1999a) model of different pedagogies) would enhance student learning.

Finally, the value of drawing on theories from different fields that provide multiple perspectives on the complex process of teaching and learning, and the relationships between teacher and students as they come to a shared understanding within a community of learners is established. From these perspectives a pedagogic theory can begin to be developed. Also, by drawing on a robust linguistic theory of language, it is possible to analyse the data in several different ways so that patterns that have emerged can be

investigated. This will also inform a developing pedagogic theory and provide explicit ways of discussing effective classroom practice which has practical application for professional development of teachers.

CHAPTER 3

Researching the Classroom

Research and theories are not "knowledge" to be "learned", but tools and discourses to be used to realize new human possibilities (Lemke 1985,p.35).

Introduction

This chapter is divided into 4 sections. Part 1 discusses the theoretical base of the research and ethical issues. Part 2 describes the context of the research in relation to the syllabus demands, the school and the classroom. Part 3 details data sources and types of analysis conducted and Part 4 provides further information about the language model underpinning the analysis.

Part 1: the methodological approach

Theoretical basis for the research

The methodological choice for research is underpinned by the researcher's own theories and assumptions as "all methods are ways of asking questions that presume an underlying set of assumptions" (Simon & Dippo 1986, p.195). The theories and assumptions that impact on this research include belief systems about teaching and learning and the mutuality of the teaching/learning process, the value of educational knowledge and the "primacy" of speech in the construction of common knowledge, and the social nature of learning. Consideration of the research problem and the knowledge interest being pursued should determine the methodology (Saljo 1988). The methodology selected for the research reflects the relationship between the theoretical assumptions and data.

> I think of methodology as the ensemble of methods that mediate between
> theory and data to support conclusions relevant to the phenomenon under

investigation. This requires that one think about the (hopefully!) principled

relations between methods as well as their multiple relations to date generated

on the one hand and theoretical assumptions on the other.

(Cole 2001, xmca @ weber.ucsd.edu, October 11)

In the case of this research the fundamental focus is determining what kinds of practices a teacher employs in the classroom to support students' learning, and how discourse mediates this learning. In other words, the rationale for this research is to "provide insights which might be acted upon in pedagogy" (Nunan 1989, p.102). Included in this very broad purpose are investigations of classroom tasks and interactions between teacher and students and students with each other that contribute to the construction of a shared understanding of the concepts and topic content being studied. The research is sociocultural in orientation and draws on a theory of situated social practice (Rogoff 1990; Lave & Wegner 1991) derived from the work of Vygotsky (1962). This emphasizes situated learning in "authentic" contexts through processes such as "cultural apprenticeship", "guided participation", and "participatory appropriation" which involves participants with different degrees of experience engaging with each other, and moving through cycles of teaching, learning and practice (Lankshear & Snyder 2000).

As the research is conducted within a "natural" classroom context, qualitative research methodology is considered the most appropriate methodological approach for this study since it is "concerned with identifying the presence or absence of something and with determining its nature, in contrast to quantitative research, which is concerned with measurement" (Watson-Gegeo 1988, p.576). The difficulties inherent in researching complex human interactions need to be acknowledged as "real research is often confusing, messy, intensely frustrating, and fundamentally nonlinear" (Marshall & Rossman 1995, p.15). These difficulties will be elaborated later in this chapter. Qualitative research encourages the "storying" of impressions through the research process, thereby engaging in "mutual gazing" (Herron 1996, p.1) of emerging issues. This makes it a suitable approach for investigating the natural setting of everyday classroom interactions.

One kind of qualitative research approach is ethnography that was originally developed by anthropologists to study the way people behave in their usual environments, such as work,

community or classrooms. Ethnographers aim to "provide a description and an interpretive-explanatory account of what people do in a setting, the outcome of their interactions and the way they understand what they are doing" (Watson-Gegeo 1988, p.576). Ethnography is also naturalistic research as it is conducted in the usual environment of the participants being observed (Schatzman & Strauss 1973, p.5 cited in Watson Gegeo 1988). Naturalistic inquiry within qualitative, ethnographic research has become a predominant methodology in the area of educational research (Allwright & Bailey 1991; Chaudron 1986; Seliger & Shohamy 1989; Watson-Gegeo 1988) and one appropriate for this research as it attempts to describe the situation as it exists in a classroom without any intervention on the part of the researcher. In addition, ethnography is the most appropriate methodology for this research as it is "the least likely to produce a world in which experts control knowledge at the expense of those who are studied" (Hymes 1980, p.105 cited in Rampton 1992). Therefore, what is gleaned from the research comes out of the data rather than the data being studied to fit within predetermined criteria.

van Lier (1988) develops the notion of researcher intervention by arguing there are two parameters for research, the interventionist parameter and the selectivity parameter. The interventionist parameter refers to the extent to which a researcher intervenes in the environment and the selectivity parameter refers to the degree to which the researcher prespecifies what is to be the focus. As I was interested in collecting naturalistic data and there was no prespecified data selected, this research is situated at the low end of the continuum in both parameters. This combination constitutes what van Lier refers to as a "watching" semantic space.

> An example of a study fitting into this final semantic space would be one in which the researcher wishes to provide a descriptive and interpretive portrait of a school community as its members go about their business of living and learning together.
> (Nunan 1989, p.7)

Although the research process involves "watching" or observing, the impact of "observer's paradox" (Labov 1972) needs to be considered in research of this kind. This refers to the potential impact on the data due to the fact it is being observed and/or recorded in some

way. As Werner Henberg's Uncertainty Principle (cited in Frayn 1998) states: The act of observing alters the reality being observed.

> You can never know everything about the whereabouts of a particle, or
> anything else because we can't observe it without introducing some new
> element into the situation – things which have an energy of their own, and
> which, therefore, have an effect on what they hit.
> (Frayn 1988, p.67-68)

While acknowledging this difficulty, students do become accustomed to adults other than the teacher in the classroom and various methods of recording being used. As Stubbs (1983) suggests, "it is regularly proposed that speakers grow accustomed to being recorded, and that tape-affected speech decreases with time" (p.225). This appeared to be the case with this research as the students quickly became accustomed to my presence in the room and saw me solely as the video operator. Occasionally students working on group tasks were asked if I could audio tape as well as video their discussion and they offered no objections. The tape was placed on the desk and students regularly took charge in turning the tape over when it ran out. They did not appear to be self-conscious about having their work discussions taped. I did not usually interact with the students during these group work sessions and sat at the back of the room and observed what was happening, however on a couple of occasions, when students were working in small groups, I asked individual students to explain what they were doing. This was to gauge their level of understanding of the tasks in which they were engaged. For example listening to two of the Year 7 students explain how the ground was made level before a pyramid was constructed enabled me to assess their conceptual understanding of the process.

A significant aspect that impacted on the choice of methodology for this study is that an ethnographic researcher induces a theory from observing members of a particular culture and derives meaning from the community informants rather than starting from a preconceived framework. The rationale behind ethnography is to see the natural environment in which people interact from their point of view. Everyday activities that appear routine and familiar are of interest in ethnographic research for they represent actions that constitute properties of the social organization. The researcher needs to become

immersed in the setting and activities being studied in order to gain insights into the perspectives of those involved in the activity. S/he therefore engages in a process of interpretation that cannot be seen as theoretically neutral but which draws on particular beliefs about the nature of the group under investigation and which therefore influences decisions about what data are to be collected and how they are to be collected and analysed. The methodological paradigm within which this research is situated may be referred to as an "exploratory-interpretive" paradigm as it utilizes a non-experimental method, yields qualitative data and provides interpretive analysis of the data. This is in contrast to the "analytical-normological" where the method of data collection is experimental; the type of data yielded is quantitative and the type of analysis is statistical (Grotjahn 1987 cited in Nunan 1989).

Through detailed and multi-layered observations of the classroom under investigation, looking for patterns in the data through use of various analytical tools and then validating initial conclusions by revisiting the data (Seliger & Shohamy 1989), an inductively derived, grounded theory about the role of discourse in mediating learning can be proposed.

> The analysis of data feeds into the process of research design. This is the core
> idea of "grounded theorizing" (Glaser & Strauss 1967): the collection of data is
> guided strategically by the developing theory. Theory building and data
> collection are dialectically linked.
> (Hammersley 1994, p.196)

Thus what this research seeks to achieve is to "derive general principles, theories, or 'truths' from an investigation and documentation of single instances" (Nunan 1989, p.13).

Educational researcher Debra Hicks (1996) proposes a methodological approach consistent with sociocognitive theories of Vygotsky and the discursive theories of Bakhtin that view classrooms as particular social contexts in which learning, reconfigured as a process of social apprenticeship, occurs. She states the methodological goal of studies of children's classroom discursive activity should be "contextual inquiries of texts and social activity structures, grounded in the question of how children construct social meanings. This type of

inquiry conceives learning as an agentive and transformative act, framed by the contexts that give rise to new forms of discourse" (Hicks 1996b, p.113).

Hicks' approach is congruent with the type of research conducted in this study. She refers to a methodology for researching a discourse-oriented approach to studying childrens' classroom learning as *contextual inquiries*. This approach entails the use of multilayered, interpretative investigations that combine the study of students' emergent participation in social and discursive activities with the study of their completed texts, both oral and written. Thus, inquiry grounded in particular social and discursive contexts strengthens the theoretical perspectives on learning as a "dialogic, transformative, and emergent process" (Hicks 1996, p.123).

Hicks suggests four focus questions that move from generalities of the sociocognitive history of particular activity settings to the particulars of how the individual child constructs meaning from within those contexts. These are:

- What are the *shared contexts of meaning* that constitute social activity in a given classroom setting? (i.e. what is the shared sociocognitive history of particular activity settings?)

- How is the construction of meaning *enacted* within particular activity structures in the classroom? (i.e. what is the moment-to-moment course of discursive activity?)

- What does the *individual child* contribute to this flow of activity? How do his/her discourses reconstruct the contexts from which they derive?

- Finally, how does the individual child's reconstruction of social meaning *change* over time? (i.e. what developmental changes occur in the way she goes about creating new forms of meaning from within textual contexts?).
  (Hicks 1996b, p.113)

This research has applied the methodology of the four focus questions above by investigating the social activity of the classroom, conducted through exchanges and activities involving both teacher and students in order to apprentice students into the methodology of History. This has been analyzed using a variety of linguistic tools applied

to the "thick" descriptions (Geertz 1973) of the classroom context to demonstrate how students construct or reconstruct meaning. Thus through detailed multi-channel observations using videotape, observation notes, narrative description, interviews and written texts, the researcher is able to explore " the moment-by-moment social construction of meaning" (Hicks 1996b, p.110). This focus on every detail or minutiae has been termed *microethnography* and is concerned with providing theory-driven descriptions of social meaning that are constructed in face-to-face interactions (Erickson 1992). A strength of this type of research, which has been utilized in this study, is that it enables the researcher to track, through the discourse, the process of how a student or students construct new understanding. "Microethnography, with its emphasis on the importance of situationally emergent social identity and co-membership…provides educators with a truly powerful set of insights and tools for implementing change in our schools" (Hornberger 1989, p.246). A detailed analysis of the discourse describes the way in which students construct thought through involvement in various tasks. Once "what is going on" in the classroom is described, insights about teaching and learning can be gleaned which will inform pedagogical theory.

> Microethnographic analyses can reveal the interactional processes through
> which the child's discourse is constructed in moment-to-moment interaction,
> whether the child is engaged in highly collaborative activity or work in an
> 'individual' private space. Such crucial developmental constructs as the zone
> of proximal development can be viewed as these 'zones' are constructed in
> contextual settings.
> (Hicks 1996b, p.115)

As stated in Chapter 2, one of the theoretical cornerstones of this research is Cultural Historical Activity Theory (Activity Theory) and the classroom as a site of activity. Some of the generic properties of ethnographic analysis have resonances with Activity Theory and show compatibility of an ethnographic approach to an investigation of a site from the theoretical perspective of Activity Theory. Some key assumptions in ethnomethodology are that the world is socially organized, in other words there is order to what happens and things make sense to the participants.

> [Ethnomethodology] is directed at the mechanisms by which participants achieve and sustain interaction in a social encounter – the assumptions they make, the conventions they utilize, and the practices they adopt. Ethnomethodology thus seeks to understand social accomplishments in their own terms, it is concerned to understand them from within.
>
> (Cohen, Manion, & Morrison, 2000, p.24-25)

In a natural setting activities actually occur and need to be investigated in detail within the context of the activity. Also, situated activities are interdependent with each other and often organized around a division of labour that is understood by the participants in the activity. Tasks and activities are sequenced to flow towards a recognized goal shared by the members of the group. They often appear "invisible" as those involved in performing the actions are highly skilled and experienced thus making the performance of tasks appear routine, thereby belying the skill involved.

Ethical issues

Ethical issues are important in all research particularly where human subjects are involved (Cameron, Fraser et al. 1992; Tuckman 1994). "Questions of access, power, harm deception, secrecy and confidentiality are all issues that the researcher has to consider and resolve often in the research context" (Burgess 1989, p.5). In setting up the research, permission was obtained from the school principal and permission notes were sent to parents of all students in the study detailing the purpose of the research, method of collection and use of data. This process eliminates any concerns of students or parents about how the data are used and informs all participants about what is involved in the data collection. It also provides the opportunity to decline, without penalty, being involved in the research (Tuckman 1994). This process addresses some of the issues of access and power raised by Burgess.

The rights of those involved in the research need to be recognized and a number of principles were followed. Firstly, the right to confidentiality was acknowledged. The privacy and welfare of the school and students were protected as the names of the students and initials of the teacher have been changed and the school is not named. The researcher

also needs to carefully consider her role when planning the conduct of the research as "in qualitative studies, the researcher is the 'instrument': Her presence in the lives of the participants invited to be part of the study is fundamental to the paradigm" (Marshall & Rossman 1995, p.10). Decisions about the degree of "participantness" (Marshall & Rossman) in the daily routine need to be made. At one extreme is the complete observer and at the other is complete participation. In this research, as the usual routines of the classroom were not altered, or the choice of topics taught affected, researcher participation was minimal and remained at the observer end of the continuum. In other words, as researcher I was minimally intrusive to the participants. There were however some instances when I wanted to ask the students more about a particular activity. This is not considered unusual and merely moves the researcher along the continuum available to the researcher (Marshall & Rossman 1995).

Another continuum that is useful to consider is that between "revealedness", the extent to which participants are aware a study is going on, and secrecy (Marshall & Rossman 1995). This research was conducted at the high end of "revealedness" as, apart from the permission letter, the students were given the opportunity to ask the researcher questions at the beginning of the study. This they did, wanting to know about my background, what the research was attempting to find out and who would view the data collected. Students were made fully aware of the purpose of the research. In addition, the teacher involved was offered access to the data although he declined this offer. A transcript of one lesson was given to him that led to a discussion between JT and myself about teaching approaches and philosophies of learning. Reciprocity was shown by giving JT a published article and a conference paper, both drawing on data collected during the research. This acknowledges the teacher's generosity in giving time and effort during the research phase.

> When people adjust their priorities and routines to help the researcher, or even
> just tolerate the researcher's presence, they are giving of themselves. The
> researcher is indebted and should be sensitive to this.
> (Marshall & Rossman 1995, p.19)

Finally the outcomes of the research and implications for classroom practice have been shared with teachers and colleagues through conference presentations, seminars and

workshops. Findings from the study will continue to inform research into improving pedagogical practices that will impact on future work in the area of teacher professional development.

Part 2: context for the research

Syllabus context

As stated in Chapter 1, the History unit observed needs to be contextualized within the wider context of the demands of the Stage 4 NSW History syllabus as this mandatory syllabus impacts upon the teacher's approach and choice of material. The syllabus states in its rationale that:

> History is a process of inquiry into questions of human affairs in their time and place. It explores the possibilities and limits of comparing past to present and present to past. It allows students to develop their critical powers and to grasp the superiority of thinking and evaluation over an impulsive and uninformed rush to judgement and decision. It allows students to gain historical knowledge and skills, and to evaluate competing versions of the past within a rational framework of inquiry. Through an investigation of history, students learn about the differences in human experience, allowing them to compare their lives with those of people of other times, places and circumstances, and, in turn, to learn to know themselves.

> "History furnishes students with a liberal education and provides them with a sense of the past, an appreciation of context, continuity and tradition, an understanding of the processes of change, and a perspective on present culture. History is intrinsically interesting as well as providing an understanding of the nature of values and institutions of the world in which we live" (History Department, University of Sydney, 1998).
> (NSW Board of Studies 1999, History Syllabus Stages 4-5 p.6)

Stages 4-5 syllabuses in NSW also have Course Performance Descriptors which are used to grade student performance in the final compulsory stage of schooling. There are five levels of achievement – elementary, satisfactory, substantial, high and excellent and there are six

descriptors. The first two descriptors, which appear in Table 3.1 at the high and excellent achievement levels, are relevant for my study. The classroom teacher, from the very first lesson begins to work towards assisting students to achieve these descriptors. In the introductory lessons he establishes the key concepts of time, change and causation (marked in **bold** in the table) and a methodology with which to draw conclusions and evaluate information and evidence. These are then reinforced in following units.

Table 3.1: NSW Board of Studies Course Performance Descriptors in Stage 4-5 History

HIGH ACHIEVEMENT The typical student: ** demonstrates, through sequencing of historical events, an understanding of time, continuity, change and causation* ** uses relevant information and evidence to explain complex problems and issues, using a range of processes including technology independently*	EXCELLENT ACHIEVEMENT The typical student: ** draws conclusions based on an understanding of **time**, continuity, **change** and **causation*** ** evaluates information and evidence to explain complex problems and issues, using a range of processes including technology independently*

School context and choice of teacher

The school in which the research was conducted is an independent boys' high school. There are 1400 students in the school with 230 of these boarding at the school. The school is situated in an affluent area of the city and although some students receive a scholarship, tuition for the majority of students requires substantial payment by parents or guardians.

The teacher chosen for the research, JT, is a middle-aged male secondary History teacher who is Head of the History department. He has over twenty five years teaching experience and was selected on the basis of previous contact with him. I consider JT to be not only experienced, but also a very competent teacher. I had observed JT's classes previously in my role as a project officer for the development of a CD-ROM on teaching and learning and was impressed with the way he developed students' understanding about historical issues. As I was wanting to collect data that would allow me to explore effective pedagogic practices, I asked him if he would be willing to participate in this study. He agreed to this and appeared comfortable with my presence in the classroom and with the lessons being videotaped.

While suggesting that JT is a teacher who is successful in his teaching practices, being able to identify what are the criteria that establish this expertise, and the relationship between

"expertness" and successful teaching, is more problematic. In research into successful teaching (Ayres, Dinham & Sawyer 1999) the notion of expert teacher being critical to students' success was established. They found expert teachers know their students and do not have to rely on formal mechanisms of control while teaching, however they noted these expert teachers find it difficult to articulate what it is they do in the classroom. This inability makes it difficult to identify characteristics of expert teachers so that this information can be transferred to knowledge about the practice of teaching. Through interviews and observations, expert teachers were found to have a mastery of content knowledge and a love or passion for their subject, which motivated their students. They were also relaxed in the classroom and were able to "be themselves" thus making themselves approachable to the students. They were organized and related to their students as people, including outside the classroom. Also both teacher and students expected order and purpose were the norm of the classroom. In addition, teachers built understanding of subject matter through a series of sequential steps with the teacher drawing on the inter-relatedness of different areas of the subject. Students were required to apply knowledge often through problem solving and there was an emphasis on interpretation rather than simple reproduction of knowledge. In considering all of the criteria determined by the Ayres, Dinham and Sawyer study, I believe JT can be called an expert teacher. The focus for the research shifts then to the various strategies employed by an expert teacher in day to day practices to support students' cognitive development.

Classroom context and teaching sequence

As stated in Chapter 1, the class chosen for the research was JT's Year 7 (12-13 year olds) History class. These 'top stream' students study History for three lessons a week for approximately twenty weeks (half the school year) then change to Geography. The units covered in this research covered the first six weeks of term 1 of the school year and consist of 17 lessons of 50 minutes each. Twelve lessons were observed at the beginning of the unit and towards the end. For four of the lessons the teacher was away and students worked independently on worksheets. Three lessons consisted of students working on a play and presenting it to the class.

What is History? is the introductory lesson for the students on the nature of History. In this lesson the teacher, JT, constructs foundational understanding about the study of History by asking the students to reflect on their own understanding of what the study of History is and how it is conducted. In the second lesson, JT moves to a different subject, the solving of a famous murder, *The pyjama mystery* in order to reinforce basic principles established in lesson 1. Full transcripts of these two lessons are in Appendix 1 *What is History?* and Appendix 2 *The pyjama mystery.*

After the two introductory lessons, the teacher spends two lessons with the students establishing what will be investigated in the first topic on the syllabus *Ancient Egypt*. The key questions for historical inquiry established in the first two lessons are applied to the study of Egypt and the teacher asks the students to brainstorm in groups what they would like to investigate in the topic that will be covered for the next six weeks. Two lessons are spent establishing the focus questions, then each area is investigated in separate lessons as worked examples that apply the principles of historical inquiry. Extracts from these lessons are discussed in Chapter 5.

The students had attended one History lesson prior to the observation and transcription of the *What is History?* lesson. It consisted mostly of administration details with a very brief discussion about what kinds of questions are asked in the study of History. For the purposes of this research it has not been included and the *What is History?* lesson has been treated as the first lesson for these students.

Part 3: data sources and analysis

Data collection

The type of data to be collected requires careful consideration as it provides "insights into whatever one wants to study" (Stubbs 1983, p.231). A researcher chooses data that provides a rich source of the everyday instances and artefacts of the area under investigation. As Heap states, "data for cultural science inquiry are chosen and examined for what they can be used to exemplify"(Heap 1995, p.286). Also, as the validity of findings based on single sources of data collection can be called into question, a number of different sources have been used in this research.

> In social research, if one relies on a single piece of data, there is a danger that
> undetected error in the data-production process may render the analysis
> incorrect. If, on the other hand, diverse kinds of data lead to the same
> conclusion, one can be a little more confident in that conclusion.
> (Hammersley & Atkinson 1983, p.198)

This contributes to triangulation of the data, which refers to the collecting and comparing of different perspectives on the same situation. Triangulation is recognized as a support for the validity of the research findings. "Using a combination of data types increases validity as the strengths of one approach can compensate for the weaknesses of another approach" (Marshall & Rossman 1989 cited in Patton 1999, p.243).

An interesting comment on triangulation is made by Cicourel (1973, p.124) who emphasizes that however much we triangulate the result will always be indefinite. By this he means every piece of evidence used to validate the data can itself be subjected to some sort of analysis and will in turn produce another indefinite arrangement of new particulars in "authoritative", "final", "formal" accounts. What is important to acknowledge then is that although different kinds of evidence may be combined, the account will always depend on the researcher filling in knowledge, and this can never be absolutely validated.

Data was collected from the following sources:

- video tapes of lessons in the Year 7 classroom

- audio tapes of some small group work

- observer field notes taken during the lessons

- collection of relevant written work samples and handouts

- interviews with selected students at the completion of the data collection phase

- interviews with the History teacher regarding his beliefs about teaching and learning (this did not follow a structured set of questions but flowed from the general question about what the teacher's beliefs about teaching and learning are)

- interviews with a small number of students four years after the original data was collected.

JT was also asked to keep a diary of his thoughts during the data collection phase although there was no obligation to do so. A diary-study is "a first person account of a language learning or teaching experience, documented through regular, candid entries in a personal journal and then analysed for recurring patterns or salient features" (Bailey 1990, p.215). This would have contributed another data source for analysis that could augment the audio/videotapes and perhaps provide insights into the teacher's classroom practice. JT did not choose to do this and as Bailey also comments it is not advisable to force anyone to make diary entries as some people may not be comfortable with this type of self-reflective approach. However, JT did make general comments at the end of each lesson and I met with him a few months after the data had been collected to give him a transcript of the first lesson. He was interested to read this and commented in some sections of the data about the words he used and my initial observations from the data. This opportunity to see and comment on initial data is different to providing formal feedback and demonstrates a level of accountability on the part of the researcher to the researched. It also provides the teacher with the opportunity to construct theories about his own experience (Rampton 1992). The expertise and experience of the teacher involved in the research is acknowledged through this feedback mechanism which allows him to theorize about his own practice. The interview conducted towards the end of the data collection phase, also provided JT with the opportunity to describe his own beliefs about teaching and learning.

The data I have collected contains both lessons in what I have termed the Induction genre (lessons 1 and 2) and most of the lessons in the Egypt unit. These lessons were planned and taught by JT without any discussion with me as to the content of the lessons. Therefore as far as possible this sample constitutes a typical series of lessons within a prescribed unit of work. There has been some criticism of human science researchers by empiricist (natural science) methodologies for the relatively small samples used but this should not be a problem for research into classroom discourse: it is more appropriate to talk about "the examples" rather than the "sample" (Heap 1995). Analysis of transcriptions, observation notes, worksheets and interviews provide a detailed description of how a teacher supports

his or her students' learning in the day to day practices of the classroom. This description can then be used as "the basis for generating claims about the normative organization of the activities that the data are taken to exemplify" (Heap 1995, p.286).

Researcher field notes were taken during the lessons observed, however an observational scheme was not used in the data collection. Some researchers argue that "such schemes cannot capture the complexity of classroom interaction and cannot address the relationship between verbal and non verbal behaviour or between behaviour and context" (Watson-Gegeo 1988, p.583). Nunan states that although observational schemes can provide "a sharper focus" for the data collection, it can also "blind the researcher to aspects of interaction and discourse which are not captured by the scheme, and which may be important to our understanding of the classroom or classrooms we are investigating" (Nunan 1989, p.98). It should be acknowledged that observation schemes can provide guidance and streamlining of observations for the researcher, however as the purpose of the research was not to control the way teacher-student and student-student talk was organized, but rather describe what exists, an observational scheme was not used. In some lessons where the teacher and students engaged in whole class discussion, the number of times students responded to teacher questions was noted on a rough class seating plan. This was used to gauge how involved each student was in the class discussion.

Observation notes were taken informally during the lessons. They included any aspect of classroom events that appeared significant or would later help interpret the transcript notes. In making field notes the researcher "is already interpreting, analysing and making choices about what to record and what to miss out" (Stubbs 1983, p.230) even though she may be unaware of filtering what is observed. "There are many acts of perceiving, remembering, selecting, interpreting, and translating, which lie between the data and the linguist's report, and these are almost all implicit in such papers" (Labov 1972c cited in Stubbs 1983, p.230).

Issues in data collection

An advantage of naturalistic inquiry is that it provides a rich data pool of authentic classroom interactions, but correspondingly this creates difficulties for the researcher such as background noise affecting the quality of audio recordings, time constraints and physical

layout of the room. Despite this, the data provide insights into the role of spoken language in learning and implications for the classroom which could not be gained in a more experimental setting (van Lier 1986). In this study, the use of video recordings which enables the researcher to not only hear the content of what is occurring, but also view other aspects of the lesson such as student interest, use of other semiotic modalities such as gesture and use of written text on the board, provides a rich picture of all aspects that contribute to the context of the lesson. Observational notes also contribute to enhancing the "picture" of what occurs in the classroom and can add extra relevant information about events in the classroom.

Noise levels create problems when attempting to record small group work as multiple groups of students in one classroom make hearing student interactions clearly a difficulty. This creates problems when attempting to transcribe and analyse in detail small group exchanges. Even though observational notes can support researcher decisions about how much the students' understand of the task set, without transcribed data, these can only contribute to a general impression. However, in this study, as the research focus is on teacher-student interactions and the discourse strategies used by the teacher in whole group situations rather than individual student-student interactions, this limitation has not affected the research.

Interviews

While interviews on their own are a limited source of data because participants "can only report their perceptions of and perspectives on what has happened" (Patton 1990, p.245) they do provide valuable insights into behaviours. Two interviews were conducted with the classroom teacher. The first occurred in the very early stages of the data collection. There were no pre-prepared questions as I preferred to engage in a conversation that drew from the teacher his beliefs about what teaching his subject involved, why he believed his subject was important to students and what he had observed about the way students learn and the strategies that support students in their learning. In being made aware of the teacher's articulated beliefs about teaching History, I was able to find evidence in the transcripts that confirmed his practice was congruent with his beliefs. This aspect is discussed in Chapter 4.

The second interview occurred a few months after the data had been collected. As already stated in the section on data collection, a typed transcript of one of the lessons was provided for the teacher to read and comment upon if he chose. The teacher read the transcript for a few minutes then began to make observations about his own teaching practice. He stated he appeared to talk too much and became reflective about his teaching practice, although through discussion with him it could be pointed out that his dialogue was in fact supporting the students' understanding as evident in the way they were contributing to his questions. Transcripts can be a useful feedback tool for teachers if they permit the teacher to draw their own conclusions based on the data.

A small group of students were interviewed at the completion of the data collection phase. The students were asked general questions about their perceptions of how successful they considered their learning to be during the topic and what things the teacher did to make the topic easier to understand. Students all expressed confidence in the teacher's ability to "get information across" in a way that was interesting. The same students were interviewed almost four years later and asked to comment on what they thought the study of History was about (this was the focus of the first lesson the students had in Year 7). They were all able to articulate responses that were close to those developed when they were in Year 7. Although I am not suggesting there was no other mention of what the study of History entailed in the ensuing four years, it does suggest the effectiveness of the teacher's strategies in the early apprenticing of his students into an understanding of what the study of History is about and what kinds of methodologies it uses. Relevant excerpts from the interviews were discussed in Chapter 2.

Issues in transcription

The transcription of the data involves the researcher in making choices about what is to be transcribed, what is to be left out and how it is to be transcribed. These choices are not theoretical, but reflect the researcher's theory of language and learning.

> As Ochs (1979) and Mishler (1991) point out, even transcriptions of one's data are theoretical representations. What one chooses to study, how one studies it, and how one decides to represent 'reality' in the form of transcriptions, fieldnotes, and interpretive narratives are all methodological issues that draw

directly from theory (Geertz 1973; Rosaldo 1989).

(Hicks 1996b, p.109)

The researcher needs to be conscious of the filtering process used when selecting data to be transcribed and it should reflect the particular interests of the researcher (Ochs 1979). Also how the transcript is laid out on the page needs to be considered as the transcriber brings a cultural spatial orientation to the layout. In the transcripts of classroom lessons the discourse is separated into two participant columns rather than the vertical script-like display. The left hand side is the teacher discourse and the right hand side the student/s. Speaker turns are separated by lines. Although Ochs (1979) challenges this placement because it shows a perceived notion of dominance and control on the part of adult, it is justified in this research as the teacher initiates most of the discourse to which the students respond.

By choosing to separate the transcript into individual participant columns, it is possible to track the development of ideas in the lesson and see how concepts are built up. As well, the reader must shift her/his eyes from one column to the other to follow the evolution of the interaction. "In this way, contingency across speaker's turns is not promoted by the transcript. The assessment of pragmatic and semantic links becomes a more-self conscious process" (Ochs 1979, p.48).

Not all lessons observed were transcribed. The first two lessons were transcribed and initial analysis undertaken. The results from this analysis informed further choices about which other lessons would be useful to transcribe. In other words, patterns evident in the early data influenced researcher decisions about which lessons would give further insights into the discourse strategies used by the classroom teacher to support students' conceptual development.

The notational conventions used in the transcription are shown in Figure 3.1

/ /   represents a "meaning" or "sense" unit. This does not always correspond to clause boundaries. Its sole use is to facilitate the reading of the transcript where there is no other indication (such as a pause or a question mark), which would indicate the boundaries of the unit meaning, for example:

> *no not 1934/ Australian trade by 1934 was absolutely free/ written into our*
> *constitution/ not that anyone reads our constitution / but anyway.*

(??)   represents a best guess about what the word or phrase is.

*   indicates unclear speech. Each (*) represents one syllable.

.   represents a pause. Additional period marks indicate longer pauses.

++ (tag)   indicates a tag question.

Each turn is numbered as in the short transcript below.

Turn	Teacher	Student
31		um...get lots of (facts??)
32	well possibly but there's something you do before that	
33		investigate like investigate
34	what *question*	
35		things around us/ anything/ any of the important things that are happening nowadays
36	yeah/ you'll still have to be a little bit more specific/ more centred/ more focussed	
37		things that affect the whole world like

Students are indicated by their initial if the student is recognized. When it is unclear which
student is speaking, and there is an exchange between two or three students regarding a
specific point, this is indicated by numbering speakers as S1, S2, S3.

Text that is written on the board is written in a different font eg Linda Agostini.

Text that is read aloud from a printed source is underlined eg <u>Commissioner Bill Mackay</u>
<u>asked a team of three dentists</u>

Sentence conventions of capitals, commas and full stops have not been used since the
transcript represents spoken language. Proper nouns have been written with capitals to

assist in understanding the text. Some commentary has been included in italics for a more complete representation of the situational context eg *students nod* or *question.*

Complete transcripts of the two Induction genres lessons, *What is History?* and *The pyjama mystery* the two Macrogenre lessons, *Egypt 1* and *Egypt 2,* excerpts from other lessons on Egypt and interviews conducted with the teacher and students are included in the appendices. Reader access to scripts is important as this enables the reader to have a clear view of precisely what data the analysis has been based on and how the data has been handled (Labov 1972c cited in Stubbs1983; Sinclair & Coulthard 1975) thus contributing to the credibility of the research.

Data organization

In the data, there are identifiable stages with specific purposes or goals within the lessons and a recognisable sequence of lessons that construct the unit of work. In Table 3.2, Stage 1 is referred to as an Induction genre, a term used to refer to the introductory lessons relating to the study of History. This is discussed in Chapter 4. Stages 2 and 3 are termed *Curriculum Macrogenres* (Christie 1993). These refer to a number of lessons within a curriculum unit. Within the Macrogenre different goal-oriented stages *Curriculum Initiation* and *Curriculum Activity* (Christie 1993) are identifiable.

The lesson stages are described in the table following and information about the status of the data included.

Table 3.2: Identified stages of the lessons

Stage 1	**Induction genre**: • *What is History?* • *The pyjama mystery*	(observed and transcribed) (observed and transcribed)
Stage 2	**Macrogenre** : **Curriculum Initiation** • *Egypt lesson 1 –* establishing focus questions • *Egypt lesson 2 –* consolidating focus questions	(observed and transcribed) (observed and transcribed)
Stage 3	**Curriculum Activity**: • *Egypt lessons 3-17*	(8 lessons observed, 5 transcribed)

As classroom discourse by its nature consists of very large amounts of data, a way to manage this, so patterns can be identified, has to be developed. To this end, each transcribed lesson is divided into meaningful segments called Episodes. This term has been adopted from the work of Gordon Wells (1996) and Lemke (1985) and in my work refers to a cohesive stretch of language dealing with a specific aspect within the discourse. These Episodes build on each other as a series of building blocks in the lesson that work towards the final goal of the lesson. By organising the data around Episodes with a specific content focus, it is possible to see the teacher's overall design for how the content is to unfold. In each Episode a new number is allocated for each speaker turn. The beginning of many Episodes occurs in the middle of an exchange, which signals a type of transition to a new aspect of the lesson. These have been marked as part (b) in an Episode. Typically, this shift is realized by continuatives in theme position eg *Right; OK..* 3.3 provides an example of this structure.

Table 3.3: Example of an Episode in the data

Turn	Teacher	Student
93b	OK so we studied/ OK what took place/ *writes on board* we choose an event and we ask the question what took place/ that's the first thing we did/ then what would be asked/ we hypothesize about what/ someone mentioned hypothesising	
Episode 5 94		why or how
95 Episode 6 95b	let's start with how/ in the case of Diana's death we've got all we can collect/ all the information from the eyewitnesses photographs forensic tests blood alcohol levels of the driver etc/ give an explanation of why on that night that car crashed/ causing her to die/ the fact that she had no seat belt may have been a contributing factor/ all that evidence was collected in order to explain how the whole event occurred that led to her death/ then there's another question to be asked	

The internal structure of the Induction genre and Macrogenre lessons, marked as Episodes is shown in Tables 3.4 and 3.5 following. Table 3.4 summarizes the content of the Induction genre lessons *What is History?* and *The pyjama mystery* and by positioning them side by side, reveals the teacher's method of dealing with one aspect at a time in discrete

sections then bringing everything together at the end so the students can make the connection about the key concept that is being established.

Table 3.4: Summary of Induction genre Episodes and content

What is History?			*The pyjama mystery?*		
Episodes	**Turns**	**Content**	**Episode**	**Turns**	**Content**
1	1-9a	review of key words and setting task	1	1-96a	solving identify of mystery woman using pyjama clue
2	9b-30a	reading and discussing students' definitions of History and establishing teacher's definition of History	2	96b-148	exploring location clue-looking for witnesses
3	30b-37	discussing what historians do	3	149-175	exploring skid marks and identity of car clue
4	38-93a	event focus – parallel of detective and historian; Diana analogy– what took place and use of scientific records	4	176-224a	exploring bag and towel clue and description clue
5	93b-95a	how the accident happened	5	224b-254	exploring final clue
6	95b-99	why it happened	6	255-361	looking for a motive
7	100-104	rationale for studying history			

Table 3.5 further reinforces the teacher's approach of dealing with one aspect at a time. The *Egypt 1* lesson is the first lesson in the unit on *Ancient Egypt* and it is significant as it gives the students the opportunity to apply the general historical questions established in the Induction genre to a specific topic. This is the focus of Episode 2. In the rest of the lesson and the following lesson, *Egypt 2*, JT systematically addresses each key question brainstormed by the students while they were in groups and establishes the overall plan of study for the rest of the unit on *Ancient Egypt.*

Table 3.5: Summary of Macrogenre content and stages

Egypt 1:Establishing focus questions   *Egypt 2:Consolidating focus questions*

Episode	Turn	Content	Episode	Turn	Content
1	1-26	establishing groups and setting group task	1	1-90	where Egypt was
2		students worked in groups to brainstorm questions	2	91-147	importance of the Nile River
3	27-37	establishing focus questions: how did they build the pyramids? Role of the Pharaohs?	3	148-181	looking at timeline
4	38-47	how the Egyptian empire began	4	182-192	government
5	48-60	The role of Pharaohs and who they were	5	193-247	trade, food, religion
6	61-66a	Egypt's contribution			
7	66b-78a	what their foreign affairs were like			
8	78b-84	architecture and how society organized			
9	85-97	religion/traditions			

Part 4: the language model underpinning the analysis

Introduction

The major tool for analysis used in this research is Systemic Functional Linguistics (SFL), discussed in detail in Chapter 2, Part 3: language as a semiotic system. As stated, Michael Halliday is the linguist most responsible for the development of this theory. Halliday's social theory of language recognizes language users use language to achieve particular purposes in a social context and his work provides a robust theoretical framework for investigating classroom interactions and the development of knowledge.

In considering classroom discourse two aspects of Halliday's work are significant. The first is the importance of language as a form of social activity with the exchange as the basic unit of communication. The exchange accounts for the internal organization of the discourse containing the reciprocal relationship between the interactants (Wells 1999). The second aspect is the external relationship between the discourse and the context realized in the register. As already introduced in Chapter 2, register is "a particular configuration of meanings that is associated with a particular situation…Considered in terms of the notion of meaning potential, the register is the range of meaning potential that is activated by the semiotic properties of the situation" (Halliday 1975, p.126). Register explains systematically the ways in which language changes, depending on the context of situation. This context consists of three factors: *field of discourse* (to do with what was going on), *mode of discourse* (to do with the medium or mode of the language activity), and *tenor of discourse* (to do with the relations of the participants in the field of activity) (Halliday 1985; Eggins 1994; Christie 1999).

The register variables of *field, tenor* and *mode* also relate simultaneously to the way in which the language system is organized in terms of three metafunctions: ideational, interpersonal and textual. It appears language has evolved for three main purposes: to talk about what is happening, what will happen and what has happened (referred to as the ideational metafunction); to interact and/or express a point of view (referred to as the interpersonal metafunction); and to combine the previous two functions into a coherent whole (referred to as the textual metafunction). The ideational metafunction uses language to represent experience. It has two parts – experiential meaning to encode the experience, and logical meanings to show the relationships between these meanings. Halliday suggests the types of meaning provided in the metafunctions can be related both "upwards" to the context and "downwards" to the lexico-grammar. "Register thus looks in two directions: to the situation, and to language as a resource for acting in the situation" (Wells 1999, p.174). In this research the ways in which the teacher and students co-construct knowledge can be investigated by analysing the lexico-grammar which realises the ideational metafunction of encoding experience. Thus, SFL provides a distinct theoretical perspective on language as a medium for learning through detailed analysis of the lexicogrammar and development of knowledge structures through the ideational meaning in discourse.

Types of analysis: linguistic

The transcribed data consists of almost 2,500 clauses analyzed using a number of linguistic tools. First, the grammar of experiential meaning, transitivity, is used to offer a description of the types of meaning being made in a text. This occurs at the level of clause. Then lexical strings, one of the cohesive devices that gives a text texture within the stratum of discourse-semantics (Martin 1992) are analyzed. Questioning in the classroom is analyzed using Wells' (1996, 1999) notion of prospectiveness which draws on SFL as its theoretical basis. Each exchange is coded according to speaker turn. Finally, the multimodal nature of the lesson, drawing on Kress and van Leeuwen's (1996) work is analyzed. The contribution each type of analysis makes to the overall discussion is discussed in the relevant sections following. Other analytical tools, Speech Functions (Martin 1992), Exchange Structure (Berry 1981), and Question coding (Laurance, Splitter and Sharp 1993) were used in initial analysis on some of the data but not continued for reasons discussed later in the chapter. Table 3.6 summarizes the analysis conducted.

Table 3.6: Summary of analytical tools

Lesson	Transitivity	Lexical strings	Prospectiveness (Wells)	Speech Functions (Martin)	Multimodal analysis	Exchange Structure (Berry)	Question coding (Laurance, Splitter and Sharp)
What is History? 360 clauses	✔	✔	✔	✔	✔	✔	
The pyjama mystery 869 clauses	✔	✔	✔		✔		✔
Egypt 1 358 clauses			✔		✔		
Egypt 2 570 clauses			✔		✔		
Egyptian Army 133 clauses	✔	✔	✔				
Importance of the Nile river 117 clauses	✔	✔	✔				
Role of the Pharaoh 97 clauses	✔	✔	✔				
Pyramid levelling 58 clauses	✔	✔	✔				

Transitivity

Transitivity analysis is a useful analytical tool for this research as it enables the researcher to track the experiential meanings of the text thus showing the development of key concepts about the study of History and its methodology in the lessons. Transitivity "specifies the different types of process that are recognized in the language, and the structures by which they are expressed…These provide the frame of reference for interpreting our experience of what goes on" (Halliday 1985, p.101). Transitivity choices relate to the dimension of *field* (what is going on in the text)*,* they package content meaning and give information about something (Eggins 1992).

In transitivity analysis, a clause is broken down into its three functional constituents: *Participant, Process* and *Circumstance. Participants* refer to "things" (including people) in our world, *Processes* indicate that what is happening or the state of affairs and *Circumstances* describe the features of the context in which the processes take place. The *Participant* constituent can be further broken down into its various roles such as *Actor, Agent, Goal, Carrier* and *Sayer.* The *Processes* can be *material* (expressing action), *mental* (involving thinking, feeling and perceiving), *verbal* (associated with saying) and *relational* (establishing certain kinds of relationships). *Circumstances* add extra detail to the process by describing when, where*,* with whom, in other words under what circumstances. By examining the predominant choices of ***Processes*** in a text, the researcher is able to make interpretations about how the content is presented. For example is the focus on action, relationships or mental states, and what is the significance of this in building information.

Of particular interest in my data is the predominance of ***relational processes*** in the first lesson where the teacher establishes core concepts about what the study of History is about. These *processes* cover "the many different ways in which "being" can be expressed" (Eggins 1994, p.255). *Relational processes* are either an *attributive* clause (a clause that shows quality, classification or description) or an *identifying* clause (a clause that defines what something is) and they each have a number of sub-types: *intensive*, *circumstantial* and *possessive.* The network of *relational processes* is shown in Figure 3.2.

Figure 3.2 Network of relational processes

```
                              ┌──────────────────┐
                ┌─────────────│ intensive        │
   ┌────────────┐             │ circumstantial   │
   │ attributive│────────────▶│ possessive       │
   └────────────┘             └──────────────────┘
┌──────────┐
│relational│────▶
└──────────┘
   ┌────────────┐             ┌──────────────────┐
   │ identifying│────────────▶│ intensive        │
   └────────────┘             │ circumstantial   │
                              │ possessive       │
                              └──────────────────┘
```
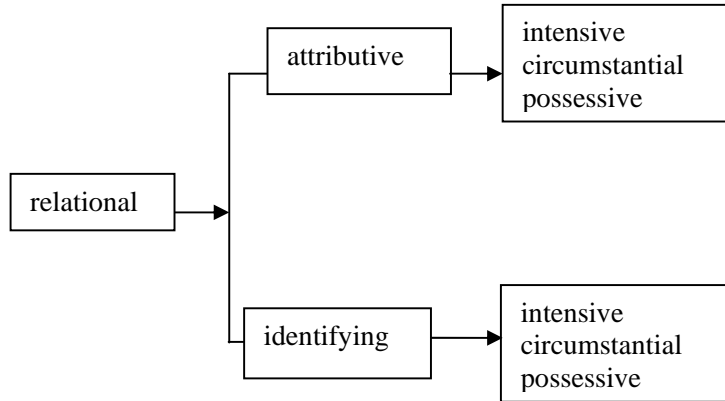
An example of each type of *relational clause* with its respective *Participants* is provided using data from the research. to assist in making a distinction between the functions of various process types. Examples (a) and (b) demonstrate *attributive* clauses that have participant roles of *Carrier* and *Attribute* and show characteristics.

Example (a)

he	had to be	very responsible
Carrier	Pr:intensive	Attribute

Example (b)

gee you	're	a hard bunch of critics
Carrier	Pr:intensive	Attribute

Examples (c) and (d) provide two examples of a *relational identifying* clause which set up an identifying relationship between two participants constructed through its participant roles of *Token* and *Value.* These kinds of clauses enable technical understanding to be built up. "Introducing technical terms means placing a *Token* in relation to its *Value. The* technical term is *Token.* What is being defined by this technical term must be grammaticalized as *Thing*, even if semantically it is not" (Unsworth 2000, p.251). The significance of the relationship between *Token* and *Value* in this type of clause is discussed in detail in Chapter 4: Section 1: unpacking History through transitivity analysis.

Example (c)

the Pharaoh	is	the legitimate ruler of Egypt
Token	Pr:intensive	Value

Example (d)

Oh yeah these	are	the things [[we have to remember]] change effect [sic] past people events causes
Token	Pr:intensive	Value

Therefore, *intensive attributive* clauses establish relationships as descriptive and *intensive identifying* clauses establish relationships as definitional.

The *circumstantial relational* processes encode meanings about the circumstantial dimensions such as location, time, space etc and can be expressed in *attributive circumstantial* clauses in the *attribute* or in the *process* and in *identifying circumstantial* clauses through the *Participants* as either *Token* or *Value* or the *process*. Examples (e) and (f) exemplify this.

Example (e)

these questions	will be related to	the past
Carrier	Pr:circumstantial	Attribute/circumstance of matter

Example (f)

the tomb	holds	much of the Pharaoh's wealth
Token	Pr:circumstantial	Value

The third sub-type of *relational processes* is *possessives* with possession encoded through *participants* in *attributive possessives* and through *participants* or *processes* in *identifying possessives* (Eggins 1994). Examples (g) and (h) demonstrate this.

Example (g)

he	has	a spear
Carrier	Pr:possessive	Attribute

Example (h)

The different weapons	are	the Egyptian soldiers'
Token	Pr:possessive	Value

Although examples of all types of relational processes occur in the data, the processes that are particularly significant in my analysis are the *intensive identifying relational* process in the clause "History is…" and the *attributive circumstantial relational* process *History is about...* which are discussed in detail in Chapter 4.

Transitivity analysis of *What is History?* lesson and *The pyjama girl mystery* lesson appears in Appendices 3 and 4 with the following coding conventions:

Clauses (a fundamental meaning system containing several components that together form a message) are marked with a new number.

Embedded clauses (clauses functioning as a thing within a clause) are marked as [[   ]].

Ellipsis (an abbreviation, leaving words out as they are understood) is marked as ( ).

Minor clauses (clauses without a subject or finite) as minor clause

Tags (an ending on a declarative clause to turn it into a question) as ++

Abbreviations of clause analysis are:

Pr: process

Tk: Token

Vl: Value

int: intensive

mat: material

poss: possessive

circ: circumstance

Use of nominalization is also an aspect of experiential meaning. It is one type of what Halliday identifies as grammatical metaphor (introduced in Chapter 2). This is the process whereby "there is a shifting in the alignment between a meaning and its grammatical expression" (Butt et al. 2000, p.78). This means a wording that is typically realized in the

lexico-grammar (congruently) with one type of language pattern is realized with a less typical grammatical choice (incongruent). An example of this is the process *to die* (congruent form) being nominalized as *death* (incongruent form). The use of nominalisation enables meanings to be condensed so language becomes more abstract and technical. This is a significant linguistic device that is characteristic of pedagogic discourse and one that is important for students to gain control over as it enables them to understand and explain complex concepts and processes. In the data, there is evidence of JT using nominalisation to explain historical phenomena.

Lexical relations

In order to construct discourse, additional relations, within the clause and beyond it are required. "These non-structural resources for discourse are what are referred to by the term COHESION" (Halliday 1994c, p.309 caps in original). Meanings are woven together through lexical and grammatical ties known as cohesive devices. Reference, ellipsis and conjunction constitute the grammatical devices of cohesion and "repetition, semantic relations, equivalence and semblance" (Butt et al. 2000, p.147) constitute the lexical devices. Lexical cohesion in a text is created through the choice of lexical items that are related in some way to the items that have gone before (Halliday 1994c). This cohesion is created through a number of ways, the most obvious being repetition. The most common kinds of lexical relations between words are taxonomic and expectancy relations. Taxonomic lexical relations are formed either through class/sub-class relations (termed hyponomy) eg. *mammal-cat* and co-hyponomic relations, where the two or more lexical items used in a text are both members of a superordinate class eg *cat–dog,* with both being members of the superordinate class *mammal*; or part/whole relations (termed meronomy) eg *cat-tail* or co-meronomic relations, with both being parts of a common whole eg *tail – ears* belonging to *cat.*

Expectancy relations are relations that are predictable through such elements as the nominal and verbal element eg *car/skid*; between action and participant eg *investigate/crime*; and *event/process* and typical location eg *robbery/bank* (Eggins 1994). Collocations or words that do not depend on any general semantic relationship of the types presented above but have a tendency to "co-occur" are included in my analysis (Halliday 1994c). By tracking

lexical items, it is possible to identify patterns within the discourse that demonstrate the way in which the teacher introduces and develops the topic of the lesson. The grammatical cohesive device of reference words, such as *it,* and *she*, can be analysed separately in a reference chain, however in this research, these words have been "lexically rendered" (i.e. reference words have been replaced with their lexical value) so as to present a more complete picture of the content of the lesson.

The extremely long length of the lexical strings created in a 50 minute lesson generates specific problems for the researcher, firstly about how to physically manage the paper so as to find patterns in the data and also how to represent this in a manageable way so insights can be shared. A summary page was developed that provided a 'snapshot' of where the focus of each Episode lies. I have termed this "busy cluster" and it has enabled me to see how ideas unfold in the lesson both in terms of what words are introduced and the relationship between words. The page is divided into Episodes on the vertical axis with key words in the lexical string across the top horizontal axis. The number of times each word appears is counted and placed in the box relevant to the Episode. The evolution of the topics in the lesson can be clearly seen through this summary page. An example of this summary page appears in Appendix 8.

Questioning

In the early stages of analysing data, while reading and re-reading data, I began to notice patterns occurring. In the History classroom, the mode of questioning by the teacher was an area that appeared critical to the way the students were being positioned to understand new concepts and information. The teacher appeared to be building "layers" of understanding about what the study of History involved through his use of questions and answers that engaged the students in a collaborative discourse. Therefore, investigation into the types of questions asked and their contribution as a discourse strategy that supported learning was explored through detailed analysis.

Teacher questions are pedagogical devices (Dillon 1988a). Dillon distinguishes between two types of questions, *discussion* questions and *recitation* questions. In a *discussion*, the teacher poses the questions that are at issue to which students respond and in the process

they raise questions about aspects they do not understand. The intention is that the discussion will contribute to their forming an answer. In a *recitation*, the teacher poses questions to things to which s/he knows the answer and that the students are presumed to know the answer to, in order to gauge the level of students' knowledge. Students may ask questions about things they do not know or understand well.

> Recitation is characterized by a distinctive question-answer discourse wherein the teacher asks one question after another, and students give answers in turn. The pace is typically quick and the answers brief, but it can be more leisurely...The answers are distinguished as predeterminately correct or incorrect, typically one answer correct for all respondents, as demonstrated by the evaluation that follows upon the answer.
> (Dillon 1988a, p.85)

The recitation questions fall within what is commonly referred to as the IRF pattern of classroom interaction. It is a typical pattern of questioning in classrooms and consists of an *initiation* by the teacher, which elicits a *response* from the student, followed by teacher *feedback.* One of the most familiar and significant findings that resulted from earlier studies of classroom discourse was the unique structural and functional properties of the forms of talk typically found in classrooms (Hicks 1996, p.18). According to van Lier (1996) the IRF pattern was first noted by Bellack in 1966. It was known as "the teaching cycle". In 1975 Sinclair and Coulthard used the same structure which they called an "exchange" as the centrepiece of their discourse analysis. Various researchers (Mehan 1979, van Lier 1996; Wells 1993) have estimated between 50-70 percent of classroom interactions consist of the three-part exchange.

There has been criticism of this pattern as it is asymmetrical with the teacher having "a much greater share of the turns and unequal direction and control over how the talk develops" (Perrott 1988, p.5). It is a controlling type of discourse in which the teacher can apply "intellectual brakes" (Perrott 1988) and prevent real learning taking place. It is said that it does not provide opportunities for students to initiate dialogue, reduces independent thinking and the development of conversational skills (Tharp & Gallimore 1988; Perrott 1988; Wood 1992; van Lier 1996). However, there can be positive outcomes of the IRF

exchange (Wells 1999; Christie 2000). The teacher can lead the students in a planned direction through questions, following a logical progression. It can lead to "useful joint construction of a shared language for dealing with the field, or leads to capacity on the part of the students to participate independently as the discourse proceeds" (Christie 2000, p.189). Also the student is given immediate feedback on the correctness of a response and finally the noise and chaos that results if a number of students are giving the answer at the same time, is minimized (van Lier 1996).

So, while acknowledging that one purpose of recitation questions (which rely on the IRF pattern of interaction) is to review and assess what students know about a topic that has been taught, there are other purposes which are pedagogically relevant. These include encouraging students to think by working out an understanding of what has just been reviewed, making sure students have grasped the significance of a particular point for this and future lessons, and also engaging students in ongoing discourse.

> …to keep their attention, to see if they are following, to complete his sentences, to provide transitions from one point or topic to another, constructing the story through question-answer and frequently checking the foundations and layers. (Dillon 1988a, p.91)

It appears then that the IRF pattern per se is not in itself problematic, but rather constraints may exist in the limiting way this type of interaction is conducted. Therefore the issue becomes one of *degree* and educational purpose rather than *kind*. Christie (2000) defends the use of the IRF pattern when it can be seen to result in "joint construction of a shared language for dealing with the field, or leads to capacity on the part of the students to participate independently as the discourse proceeds" (p.189). Further discussion about the effects on student learning of varying the *feedback* move in the IRF exchange appears later in this section.

The different roles questioning can play in the teaching/learning process has also been discussed by Young (1992). He states questions can motivate students by interesting them and they can also be used to revise, to test or assess, control, explore, explain or explicate.

He divides questions into four categories that highlight the different goals of each type and which in turn determine the line of questioning:

- being tested or assessed

- telling the questioner what he wants to know

- being "Socratized" or asked to guess or infer

- starting shared inquiry.

In the first category the answerer is expected to know and the questioner already knows the answer. This is a type of diagnostic questioning the purpose of which could be to find out students' prior knowledge before continuing the lesson. It could also be used to evaluate and grade students' performance. The second category usually relates to extra-curricula knowledge where the questioner does not know the answer, for example "have you done your homework?". The third category, being "Socratized", can be seen as a form of GWTT (Guess What Teacher Thinks) if the teacher's evaluations or comments are in the order of, "it's not quite what I had in mind" responses. If however, the teacher "abstains from a focus on "the right answer" but uses his or her own knowledge of the subject matter to help in formulating questions which guide the methodology of the pupil's thinking towards an answer which is not just a guess but based on reasoning and evidence" (Young 1992, p.102-103), then a different outcome is achieved. The use of questioning in this way operates as a means of apprenticing students into the subject area. There is evidence of this type of "Socratic" questioning in the History classroom that engages students in the apprenticeship process of learning about what the study of History is and its methodology.

Young clusters the first three categories of questions into what he terms *method* classrooms which are about "teaching a set curriculum and about preserving the knowledge selected from that curriculum like a fly in the amber of decontextualisation" (Young 1992, p.103). While it appears that the *method* classroom has little to offer in a classroom where the teacher is concerned with teaching practice that supports students' learning, the lack of value placed on one type of questioning, "Socratic" or inductive questioning needs to be challenged. There is a place for this type of inductive questioning that can support students

in their learning. In fact, inductive questioning provides an important scaffold for students as they engage in new learning.

In category four, the answerer is not expected to know and the questioner, although he knows the answer, is interested in fostering students' participation in the inquiry. Young refers to this as a discourse cluster where students are helped to "grow up" into the discourse of the subject. However it needs to be pointed out that "shared inquiry will not emerge from an unanswered question unless the question becomes owned by the answerer as well as the original questioner" (Young 1993, p.101).

Therefore, the teacher requires skill in appropriating student responses and "revoicing" them (O'Connor & Michaels 1996) and guiding them so that the teacher and students jointly construct the information.

> In the discourse classroom we find the learner as pedagogical partner, rather
> than pedagogical object. The pedagogy is consciously co-constructed (instead
> of unconsciously, as in the method classroom).
> (Young 1992, p.87)

It is the "designed-in" tasks of a lesson as well as the discourse strategies the teacher employs that provide the opportunity for this kind of classroom to exist. Rather than simply transmitting knowledge, a teacher who wishes to engage students in a kind of "semiotic apprenticeship" (Wells 1999) through fostering student participation in an inquiry, takes on the role of guide in the co-construction of meaning.

> The teacher is in authority, since she is closer to being a fully fledged
> participant in the discourse than the pupil and usually, in a school setting, has
> responsibility for regulating the conduct of a group of inquirers, but she has the
> authority that a guide or pilot has relative to the captain of a ship, rather than
> the combined authority of both captain and pilot relative to the passengers.
> (Young 1993, p.103)

Initial analysis in questioning

In this study, initial analysis drew on the work of Laurance, Splitter and Sharp (1993). The coding categories were helpful in the early stages of the analysis of the data to categorize questions into different types, so that patterns could be established and insights could be gained about the functions different types of questions perform in a dialogue. However, they were found to be limited as discussed later and so it was abandoned. Despite rejecting the actual coding categories, insights from Laurance, Splitter and Sharp's discussion about the nature and quality of questions as being key determiners of whether or not the classroom consists of "a dialogical community of inquiry" (Laurance, Splitter and Sharp 1993, p.25) that supports conceptual development was useful.

> Dialogue depends on thinking: it is really a form of "thinking out loud"...[and] within dialogue there lies the potential for the creation of new thoughts that would otherwise not come into being.
> (Laurance, Splitter and Sharp 1993, p.13-14)

It is through the kinds of questioning a teacher uses that a dialogue that leads to inquiry-based thinking is possible. In order to investigate the quality of questioning in a classroom, Laurance, Splitter and Sharp developed a framework for coding questions. They identify three kinds of questions: Ordinary Questions **OrQs**; Inquiry Questions **InQs** and Rhetorical Questions **RheQs.**

OrQs cover the vast majority of questions and answer contexts and are used in situations in which we want something which we do not have, for example, information, directions, food, so we ask someone who has it. The question reaches closure when we attain (or are denied) that item. These kinds of questions, although they have a role in the classroom, do not support extended or inquiry thinking.

InQs are genuine questions but differ from the OrQs in that the questioner does not assume that the person questioned knows the answer, nor does any response signal closure but the beginnings of further inquiry. InQs often require clarification and are the sorts of questions students ask when they are actively involved in the quest for understanding.

RheQs are not genuine questions but ones where the questioner (the teacher) knows the answer already. There has been much criticism of this type of question in classroom studies as fulfilling a kind of "game show" role which increases the teacher's second-order knowledge of their student's first-order knowledge, however there are some things that can be said in defence of this kind of questioning. One is that low-level recall and comprehension skills do have a legitimate place in teaching and learning and the other is the role in stimulating higher-order, or, "multilogical" (Young 1992) thinking and learning.

In the analysis of the coding, it is possible for RheQs to become InQs if the teacher provides students with the opportunity to explain an answer. "The strategy of asking and answering the teacher's RheQs may, in specific cases, be a precursor to coming to grips with a more substantive InQ. The teacher may legitimately choose to lead into a complex topic via a series of RheQs which clarify the meanings of important terms and concepts, and these serve to clear the way for a InQ to be formulated" (Laurance, Splitter & Sharp 1993, p. 33). In their coding they also mark whether a question is a closed or open question and whether it is procedural or substantive.

In Table 3.7, two brief examples of the way in which Laurance, Splitter and Sharp's coding of questions is presented.

Table 3.7: Questions from What is History? lesson

Turn	Teacher Question	Student	Category
5	is there anything that we've thought about we can add to those/ is there anything that you wrote down last week whether in your groups or individual when you were thinking about it/ try to explain what we do as historians or describe what history is		OrQs; Procedural; Open
13	history is about people who have affected the past and caused a change in the present/ it certainly is isn't it		RheQs Procedural Closed
13	if we wander into a bookshop and wander through the most popular section of the book shop we more often than not find books about people which are called		Cued elicitation a non-interrogative form of question

15	now is that all that history is about/ can we maybe change a little/ just so we'll look at another definition using the same words/ maybe um look at it maybe slightly differently/ anybody got another sentence		RheQs Closed Procedural OrQs Closed Procedural
15	changes in people affect time which causes/ changes in people affects times which causes history/ can you explain that a little more		InQs Open Substantive

As already stated, while this type of coding was initially helpful, it was eventually found to be limited because it did not have the capacity to show how ordinary questions, (the majority of questions asked in the classroom) could be used to build understanding. Ordinary questions by definition do not extend the thinking of students, yet it could be seen in the data that the teacher used ordinary questions to lead students' to an inductive understanding of how historians use historical sources.

Increasing prospectiveness through questioning

In early analysis of the data Martin's (1992) Speech Functions, a stratified approach to interpreting dialogue at the level of discourse semantics within the SFL framework, was used as a tool to provide insights into the nature of the exchanges in the classroom. Speech Functions show how interactants negotiate the exchange of meaning in dialogue through the sequencing of moves. The Speech Function network elaborated by Martin (1992) gives rise to seven adjacency pairs: These are Call/Response to Call (*Are you there?/ Yes*); Greeting/Response to Greeting; (*Hi there/Oh hi*) Exclamation/Response to Exclamation; (*That's silly/ Sure is*) Offer/Acknowledge Offer (*Would you like to read the next section?/I'd like that); Command/Response Offer to Command (*Read the next section please/ Of course*); Statement/Acknowledge Statement (*We choose an event and we ask the question/ Is that so*); Question/ Response Statement to Question (*What is the answer?/ Who knows*). Responding speech functions either support or confront the initiating speech function. Sequences of speech functions can consist of a number of moves (labelled dynamic moves by Martin 1992, p.66-76) such as request for clarification and response to challenge (Eggins 1994).

As with Laurance, Spitter & Sharp's coding, while initially useful in categorizing the function of each exchange, it was found the adjacency pairs in Speech Function did not capture the purpose of each exchange in a functionally descriptive way. An elaboration of Martin's coding, developed by Gordon Wells (1995; 1999) was adopted as it provides a more delicate functional description. As Wells' analysis draws on Martin's Speech Function analysis, a strong parallel between the terms used by these two researchers is evident. The similarity between Wells' coding (Column one) and Martin's coding (Column 2) is seen in Table 3.8. For example, a **Question** (Martin) is referred to as a **Request Information** (Wells); a **Response Statement to a Question** is **Give Information** and a **Statement** can be **Accept** and/or **extend**

Coding: Q = Question; RSQ = Response Statement to Question; S = Statement.

Table 3.8: Comparison of Wells' functions and Martin's speech functions

LESSON 1: Episode 2	Wells' functions	Martin's speech functions
Sequence 2 think how often we in actual fact study significant people in history/ if we wander into a bookshop and wander through the most popular section of the book shop we more often than not find books about people which are called S: biographies biographies/ yeah one of the most popular non fiction type of book/ and biography of for people who are interested in how people affected their time and affect the present	Request Information Give Information Accept/ Extend	Q RSQ S
Sequence 3 OK now is that all that history is about/can we maybe change a little/just so we'll look at another definition using the same words/ maybe um look at it maybe slightly differently/ anybody got another sentence/ changes in people affect time which causes changes in people affects times/ causes history can you explain that a little more what people do makes history what people do/ OK/ put that in brackets after	Request Information Give Information Accept	Q RSQ S

Wells' work is situated within a sociocultural theory of learning that "focuses on semiotic mediation as the primary means whereby the less mature are assisted to appropriate the culture's existing resources" (Wells 1999, p.xii). To understand how dialogue is used to "improve students' opportunities for learning through the development of classroom communities of inquiry" (Wells 1999, p.1), a detailed analysis of classroom exchanges needs to be conducted. Wells' analytical framework provides such a means. His analytical

framework is based on the articulation of Activity theory, the tri-stratal analysis of joint activity developed by Leont'ev (1981) on the ideas initially proposed by Vygotsky, and SFL. Wells states that within an activity framework, in which tools (such as language) have a central role, discourse is seen as a "toolkit" that is drawn on to achieve the goals of activities and their constituent tasks (Wells 1999). The exchanges in discourse provide evidence of how the various "actions" in a lesson are "operationalized". As previously stated, SFL theory is about language as a resource for making meaning and is organized around the concept of system network (Halliday 1994c). SFL theory has "a strong commitment to the view that language study should focus on meaning and on the ways in which people exercise choices in order to make meaning" (Christie & Unsworth 2000, p.2). It is well suited to "applied" language research in the classroom as it has as its emphasis on "language use as a form of social activity and recognition of the exchange rather than the individual utterance, as the basic unit of communication" (Halliday 1984 cited in Wells 1999, p.173). By drawing on these two relevant theories, Wells has developed a means of analyzing classroom discourse that supports the investigation into the role of dialogue in developing students' conceptual understanding.

When analyzing the exchanges that constitute the dialogue, the basic syntax of the English clause that consists of two fundamental oppositions is considered. These are *information* as opposed to *goods and services* (indicative versus imperative) and *giving* (declarative) as opposed to *demanding* (interrogative). "Semantically oriented labels of this kind highlight the meaning of the grammatical terms (in this case, their typical function in dialogue) and are used throughout Halliday (1985a) to focus on the grammar as a functionally organized meaning making resource (rather than as syntax, or set of forms)" (Martin 1992, p.32). During an exchange, a speaker/writer and the audience each adopt a particular role, either giving or demanding and the commodity exchanged is either "goods and services" or "information". Whichever type of exchange is enacted, there is at least one move by both the "primary knower" and "secondary knower" and as many moves as required to complete the interaction (Berry 1981). Again, initial detailed analysis used Berry's exchange structure analysis to examine the interchange in the classroom between the "primary knower" (K1) and the "secondary knower" (K2). It was found that the teacher in the majority of cases was the "primary knower" (K1), *demanding* the student to provide

information. This could suggest the teacher, in dominating the exchanges, was preventing the students from taking control of their own learning, but as discussed in Chapters 4 and 5, discourse strategies employed by the teacher in the exchanges support and enable the students to become co-constructors of the new information. It was decided therefore that as this type of analysis did not contribute to insights about how the exchanges were used to support the students' learning no further analysis of this type would be used.

The IRF structure or "triadic dialogue" (Lemke 1990), previously mentioned, is a variant of exchange structure. Wells suggests that in the *feedback* move in an exchange, it is possible for the *feedback* move to act as a pivot whereby students are invited to add new information to the exchange. Wells further categorizes the move exchange with an additional analysis termed *prospectiveness* (1995, 1999). Moves consist of a *Demand*, *Give* and *Acknowledge* and these decrease in "prospectiveness" within the exchange.

> *Demand* is the most strongly prospective move which requires a *Give* in response. A *Give* is less prospective: it expects but does not require a response. Least prospective is an *Acknowledge*, which always occurs in response to a more prospective move but itself expects no further response. The scale is ordered D>G>A. There are two basic exchange types, depending on whether the initiating move is Demand or Give:
>
> (i) D-G-A
>   D: Is it going to rain tomorrow?
>   G: It might.
>   A: Good!
>
> (ii) G-A
>   G: It's going to rain tomorrow.
>   A: Oh!
>   (adapted from Wells 1996)

Exchanges made only of these sequences are very limiting and also do not provide very rich opportunity for students to engage in learning about new ideas or to link concepts in connected discourse (Lemke 1985). Wells proposes a second principle that at any point

after the initiating move in an exchange, a participant can, while minimally or implicitly fulfilling the expectation of the preceding move, step up the prospectiveness of the current move so that it, in turn, requires or expects a response" (1996 p.16). This increasing of prospectiveness in the feedback move enables the teacher to interrogate the students, further requiring them to elaborate or reformulate responses. The students therefore participate in an extended dialogue with the teacher in which he guides them in the co-construction of knowledge. Therefore, if the "triadic dialogue" (Lemke 1990) consisting of an Initiation^ Response^ Feedback can be adapted through increasing the prospectiveness of the exchange, a different learning outcome is possible for students. Restated, this means if the feedback move acts as a "pivot move" inviting students to explain, justify or amplify their responses rather than merely have them evaluated by the teacher, "what starts as an IRF exchange can develop into a genuine dialogic co-construction of meaning" (Wells 1999, p.145). Therefore the pivot move creates a discursive pressure that leads to increased challenge for the students. This extended dialogue between teacher and students thus provides the opportunity for the teacher to support students in absorbing new information into existing schema as they work within their zone of proximal development to gain new understanding.

> The final outcome of such a sequence – an increment in the group's common knowledge- is often similar to that arrived at by means of teacher-dominated triadic dialogue, but the distribution of responsibility for achieving it is very different. For here it is the student, rather than the teacher, who does most of the work involved in producing the acceptable formulation.
> (Wells 1999, p.249)

van Lier also affirms this notion of being able to alter the learning outcome of students by adjusting the teacher response in the feedback move of an IRF exchange. Apart from the IRF interaction eliciting the cognitively undemanding recall of facts, it can also push students "to think critically and articulate grounds for their answers" (van Lier 1996, p.150). He states

> The IRF can be used to make the students repeat something verbatim, to require them to produce previously learned material from memory, to ask the students

to think and then verbalize those thoughts, and finally to ask them to express
themselves more clearly or precisely…these four functions form a continuum
from less to greater demand on students' mental processing powers, and from
less to greater depth of processing.
(van Lier 1996, p.154)

An additional category of analysis from Wells (1999), discussed at the beginning of this
section in relation to Speech Function, is applied to the data as well. It provides a
descriptive function to each exchange that allows the researcher to see the different ways
the teacher reacts to the students' responses and how he 'pushes' the students to further
engage in the dialogue. Each exchange is coded as to its topic function.

These are:

Req. inform	Request information
Req. suggest	Request suggestion
Req. opinion	Request opinion
Req. justif.	Request justification/explanation
Req. pos/neg.	Request "Yes/No" answer
Req. confirm	Request confirmation
Req. repeat	Request repeat
Check	Check for understanding
Bid	Request to speak
Inform	Give information
Suggest	Give suggestion
Opinion	Give opinion
Justif.	Give justification/explanation
Confirm	Give confirmation
Qualify	Qualify previous contribution
Clarify	Clarify own previous contribution
Extend	Extend previous contribution
Exemplify	Give relevant example
Pos/neg	Give "Yes" or "No" answer

Repetition	Repeat own previous contribution
Nominate	Nominate next speaker
Acknowledge	Acknowledge
Accept	Accept previous contribution
Reject	Reject previous contribution
Evaluate	Evaluate previous contribution
Reformulate	Reformulate previous contribution.

(Wells 1999, p.338)

In examining the role of questioning as a teaching tool, the IRF exchange with its analysis of pivot moves for the extension of the exchange within the *feedback* move; the notion of prospectiveness and the coding of the type of function of the exchange, enables the researcher to observe firstly how a "dialogic relationship" (Wells 1994) unfolds and secondly how the students work within their "zone of proximal development" to gain new understanding.

Types of analysis: multimodal

Dialogue occurs within a context that is multifaceted and various aspects that contribute to the overall meaning also need to be considered. They include variables such as seating arrangements; artifacts such as writing on the board, films and pictures and textbooks; use of gesture and voice. The multimodal nature of the classroom, spoken, written, visual, spatial, gestural and the ways in which this supports students' learning, is explored by using the theoretical framework based on SFL developed by social semioticians Gunter Kress and Theo van Leeuwen (1996). As communication does not proceed in only one mode, that is language, or even two modes, speaking and writing, but rather a multiplicity of modes simultaneously, the effects on student learning of how different modalities such as drawing on the blackboard and the teacher miming actions and the way in which they work together to construct meaning, need to be considered. In addition, the foregrounding of particular modes at specific points in a lesson or lesson span and their contribution to student learning also need to be considered.

The use of a variety of "input modes" creates what is referred to as "message redundancy" (Wong-Filmore 1985) and provides students with the opportunity to understand the

message being presented in more than one mode. If students are having difficulty comprehending in one mode, for example listening to an explanation, they can be assisted through the drawing of a diagram to explicate the topic. The diagram can be drawn at the same time as the explanation or after, if the teacher realizes students are having difficulty and a "repair" move is needed. Message redundancy provides for students an amplification of the message. Because of this Gibbons (in press) suggests it would be better termed "message abundancy" as this term is more congruent with the actual nature of what is occurring rather than "message redundancy", a term adopted from Second Language Acquisition theory via Information theory which could suggest unnecessary excess.

In SFL theory, the notions of language use as being ancillary or constitutive have been developed. Ancillary use suggests "subservience" to the constitutive use but this is not always the case (Christie 2000). In constructing knowledge, if both written text and various forms of visual representation are required for meaning to be made, then a synergetic relationship exists between the modes. This relationship of mutual dependency is evident in the History classroom between various modes used to study the History content. Gesture also has a role in creating meaning (McNeill 1992 cited in Lantolf 2000). McNeill claims "inner speech" is not only verbal, but includes gesture as well and that meaning is created by both. Gesture operates not as "a substitute for a verbal sign but as a complement to it" (Lantolf 2000, p.16).

When investigating the impact of multimodal interactions on learning, Cicourel's (1996 cited in Candlin 2001) notion of ecological validity in discourse analysis is relevant as it recognizes the interconnecting processes of saying, seeing and acting within an action. Social ecology recognizes the historical dimension in which discourses operate and recontextualize themselves. van Lier (2000) also supports the importance of nonverbal semiotic systems such as gesture, drawings and artifacts as part of ecological learning, that is, learning that impacts with everything with which the learner engages. In an ecological view of learning, language is "connected with kinesic, prosodic, and other visual and auditory sources of meaning…[and] thus places a strong emphasis on contextualizing language into other semiotic systems, and into the contextual world as a whole" (van Lier

2000, p.259). Therefore examining the multi-dimensions within an activity recognize the role other semiotic systems play as they interact with dialogue to construct meaning.

Conclusion

This chapter discusses a number of aspects relevant to researching the classroom. The research is qualitative drawing on an ethnographic approach. It illustrates how this approach is suitable to investigate discourse in the natural setting of a classroom. The various contexts for the research, syllabus, school and classroom are all presented to provide as detailed a context as possible of any variables that might impact on the research conclusions. Details of data collection and any relevant issues are discussed and the theoretical basis of the analysis explained. This research then, underpinned by a sound methodological approach, is situated at the nexus of theory and practice where what constitutes effective pedagogy can begin to be described.

CHAPTER 4

Acting contingently:
discourse strategies to establish the field

Dialogue has a critical role to play in scaffolded instruction, facilitating the collaboration necessary between the novice and expert for the novice to acquire the cognitive strategy or strategies (Palinscar 1986, p.95).

Introduction

This chapter addresses the way in which the classroom teacher supports the development of students' conceptual understanding and in so doing how his students are enculturated into the practices of thinking like an historian. The data suggests the History teacher JT has as his underlying pedagogy a sociocultural approach to teaching, and in the process of engaging in dialogue with the students in a manner that enables the co-construction of understanding, he also apprentices them into the discourse of History. Although this learning is 'inadvertent' (discussed in Chapter 1) it is none the less critical to their future as students of History.

The mediating role of language as a tool to support learning is evident in the discourse through detailed analysis using Systemic Functional Linguistics (discussed in Chapter 2 and 3 and also later in this chapter). SFL is used as an analytical tool to track how the teacher helps construct student knowledge as well as how the apprenticing process is enacted in the discourse. The dialogues demonstrate the way in which "teachers allow room for learner initiative as a new task is grasped, but intervene when learners begin to falter" (Gibbons 1999, p.267). By analysing the data, specific instances of scaffolding strategies undertaken by the teacher are made evident in the discourse. In other words, a linguistic description of contingency in action is made possible. As described in Chapter

1, contingency refers to the various ways teachers provide help for their students 'at the point of need' and 'moment-by-moment'.

The chapter is divided into two parts. Part 1 focuses first on establishing my notion of an **Induction genre** in the first two History lessons the students attend in Year 7, called *What is History?* and *The pyjama girl mystery*. Once basic understandings about what the study of History involves are established, these understandings are consolidated with the next two lessons. I refer to this as a **Macrogenre**. These lessons introduce a new topic Anc*ient Egypt* where in lesson 3, referred to as *Egypt 1,* the purpose is to establish focus questions for the topic study and in lesson 4, *Egypt 2,* the purpose is to consolidate the focus questions determined in the previous lesson. These four lessons work together as significant apprenticing lessons into the discourse and methodology of History that creates the foundations for students' conceptual understanding of the subject. The nature of this "designed-in" scaffolding is also discussed in relation to the teacher's role in determining the content and sequence of the lessons that also contribute to the students' conceptual understanding. Following this, there is an exploration of the experiences and activities that apprentice students into the methodology and discourse of History.

Part 2 uses specific analyses from SFL to examine the way the teacher uses a variety of scaffolding strategies to support students' conceptual development as apprentice historians in the two lessons of the Induction genre. In particular transitivity, lexical relations, exchange structure and the multimodal nature of the lesson work are investigated. Also discussed is Wells' idea of prospectiveness, which has SFL as its theoretical basis. Detailed descriptions of each of the above forms of analysis are discussed in the relevant sections. Discussion of specific analyses in selected excerpts from the Macrogenre lessons and subsequent lessons in the rest of the unit on Egypt is included in the next chapter. Because classroom discourse generates large volumes of data, each lesson is divided into semantically meaningful segments referred to as Episodes (discussed more fully in Chapter 3). Also speaker turns are numbered sequentially.

Part 1: beginning the apprenticeship process through an Induction genre and Macrogenre

Part 1 is divided into five sections, each of which focuses on a specific aspect of the way in which JT supports students in their understanding of what it means to study History. Section 1 demonstrates the way in which JT recontextualizes non-specialized discourse to subject appropriate discourse through echoing key ideas from one lesson in another and using discourse strategies of recasting and recontextualizing. Section 2 highlights the "designed-in" nature of JT's approach by providing examples of his pedagogic approach; Section 3 discusses the role of questioning in developing conceptual hooks for students and Section 4 provides examples of the discourse strategies of paralleling and recontextualizing in order to develop technical language. The final section, Section 5, considers the role of multimodal support in constructing understanding.

Section 1: recontextualizing the discourse as a means of developing understanding

JT exhibits a profound knowledge of the general principles of his subject and sets out to apprentice students as they begin to develop a theoretical knowledge of historical study through the first two foundational lessons I have named an Induction genre. The first two lessons observed and transcribed establish the study of History as having a particular methodology and specialized discourse. In the first lesson *What is History?,* students reflect on their own understandings of what the study of History is about and how it is conducted. In the second lesson about a famous murder, *The pyjama girl mystery*, the focus of discussion is the basic principles upon which the study of History is founded. Together, these lessons provide an apprenticeship or induction role that forms the basis of all further study in the subject.

In the next two lessons *Egypt 1* and *Egypt 2* which I have termed the Macrogenre (a term borrowed from Christie and discussed in detail in Chapter 3), JT further reinforces basic understandings about the study of History established in the Induction genre. He recontextualizes the discourse through a variety of strategies (discussed in Part 2 of this chapter). There is a resonance within the Macrogenre on Egypt with the key ideas established in the Induction genre demonstrating the interrelatedness of the four lessons.

The relationship of the Macrogenre to the Induction genre is one of elaboration [=] (after Halliday). Elaboration at clause level refers to one clause elaborating on the meaning of another by further describing it. No new element is added; rather a clarification or refinement is made of what is already there (Halliday 1985). This notion has been extended to refer to the way in which the whole text of the first lessons, the Induction genre, are elaborated or echoed in the Macrogenre. In other words, the core principles of historical study are revisited through new content and the Macrogenre lessons provide an overview of the areas to be studied in detail in the following lessons. This relationship is demonstrated in Table 4.1 where key questions asked in the Induction genre *What is History?* lesson are echoed in the Macrogenre *Egypt 1* lesson.

Echoing key ideas

Table 4.1 compares the way in which the key principles of historical inquiry, asking *who, what, when, where, how* and *why*, are explored in the first lesson of both the Induction genre and the Macrogenre. This repetition or echoing, although relating to different content, reinforces for students the idea that these key principles are generic and need to be applied when engaging in any historical study.

Table 4.1: Evidence of echoing

What is History? lesson	*Egypt 1* lesson	Key ideas evident in both
focus*: choose an event/ what took place* Episode 4 Turn 38	focus: *where* Episode 1 Turn 11	when what where how why who
focus: *how it happened* Episode 4 Turn 63	focus*: where, when, what, who and why* Episode 1 Turn 19	
focus: *why or how* Episode 5 Turn 94	focus: *how* Episode 1 Turn 20	

The relationship between the Induction genre and the Macrogenre is further supported through the resonances in the *Egypt 1* lesson of the process of inquiry established in the *The pyjama girl mystery* lesson. Text 4.1 highlights this echoing of the process in excerpts from the lesson.

Text 4.1

Teacher	Students	Commentary
Egypt 1: Turn 1		
it's like when we were gathering clues the other day about a murder/ we don't dismiss anything until they've investigated it/ once we've investigated it we can then say well is that valuable or not/ we just don't drop it as an idea because it may in actual fact lead somewhere that we initially couldn't see		Direct reference to Induction genre lesson *The pyjama girl mystery.*
Turn 3		
this is what we are going to start today /but your task is to start off with is/ what process are we going to go through to find out about Egypt the land of the Pharaohs/ you will do this in group work OK/ so we're going to set what you're going to do/ set up the process of inquiry into that /and what we've got to do in order to do this is/ what as an historian/ what do you do to start off the process of inquiry		Teacher begins the apprenticeship of the students as historians now with a new topic. He is beginning to put into practice with historical material the process for inquiry he demonstrated in *The pyjama girl mystery.* He writes on the board **The process of inquiry**
Turns 12-14		
OK we start to set up a number of questions which we can call if you like some focus questions/ they become what/ compared with our murder case/ what do our focus questions become like		Links back *to The pyjama girl mystery* part of the Induction genre in which the teacher establishes the process of historical inquiry.
	um our clues	
yeah our clues, so we set up a number of focus questions that we treat like our clues		Link made between *clues in The pyjama girl mystery* lesson and *focus questions* in this lesson
Turns 16 – 22		
alright so that we're going to set up a number of focus questions that may/ we'll treat like clues/ and we might in actual fact have a series of sub-questions under each one of these focus questions/ and is already suggested one of the easiest focus questions to establish / where was it/ OK so that's an easy one to think about/ so when beginning an investigation of an/ land of the Pharaohs Ancient Egypt/ we have to set up a number of focus questions which we need to then investigate and discover what/what are we going to end up discovering		This turn links not only to the previous lesson with the reference to clues, but also to the first lesson in the Induction genre Wh*at is History?* where key ideas of what History is about and what historians do were established.
	what/ all about Ancient Egypt	
well we might/any other ideas		
	where, when, what, who and why	
yeah we're going to start answering those questions, questions that historians ask aren't we/ prior to beginning		

Recasting and recontextualizing strategies

Recasting and recontextualizing are discourse strategies used by JT as a way of simultaneously developing students' conceptual understanding and subject specific register. In this section I use the term recasting to refer to the teacher's relexicalising a student's everyday word or words into more technical ones. This strategy operates at word level. This is evident in Macrogenre lessons, *Egypt 1* and *Egypt 2*. The teacher also recontextualizes the exchanges to be more register appropriate for historical inquiry. The term recontextualizing is used to refer to selectively appropriating discourse or part of a discourse from where it was produced and re-locating it within the recontextualized subject field. The original discourse undergoes an ideological transformation appropriate to the interests of those in the recontextualized field (Bernstein 2000, p.113). Text 4.2, provides examples of the teacher recasting students' questions and appropriating to recontextualize students' suggestions as a sub-question, thereby showing students that different but related aspects could be studied under a principle or focus question.

Text 4.2

Episode	Teacher	Students	Commentary
Egypt 1: Episode 4:Turns 38-41			
		sir can um our question **how did how did the Egyptian empires rise out of the ground** one day when there/ because there was no evidence of it one day and then it was there as a thriving community the next day/ why did the pyr/ why did the old pyramids survive intact and not the newer ones/ you would think that the Egyptians would after the first experience making the great pyramids outside Cairo/ why wouldn't the um smaller ones elsewhere survive	**Recasting** The student question is not very focussed. JT recasts *rise out of the ground* in the first question (in bold) into a more appropriate question for investigation with the word *begin*. **How did the Egyptian empire begin?** JT establishes this as a key question.
	lots of questions in that isn't there/ um first of all let's take the first one Blair /which is/an/ which is um probably a good place to start/ **how did the Egyptian empire begin**/ we are going to be looking at several ah ancient societies but it is always an interesting question to ask/ where did this great empire this great civilisation begin /and related to this may be one of our other focus questions/so let's get another one here/		
		how long did it take to build a pyramid	**Recontextualising** JT points to **How did they build the pyramids?** and writes underneath – **time taken**
	well, you, it that's a sub-question for this one here really/ we can we can put that one with that one		

Episode 5:Turns 48-60		
	what do they do with the Pharaohs after they die	
we're going to change the er/ is that another focus questions or a sub question of this one		
	no ah another focus question	
	another focus question	
why do you want to ask that question anyway/ because just that's presumed isn't it		
	the role of the Pharaohs	
ah well /what is the question we ask before that when we we say what did they do with the Pharaohs after they die/ we're already assuming some prior knowledge aren't we/ what sort of prior knowledge are we assuming		**Recontextualizing** JT challenges students in this exchange to clarify their thinking by trying to have students 'think backwards' from the specific student question to a more generic focus question.
	who are the Pharaohs	
yeah who are the Pharaohs /or even to the extent /what else/ what other prior knowledge are we assuming		
	classification	
yeah we are doing that as well		
	what are they	
what are they/who are they/ so we could actually ask the question something like **who ruled Ancient Egypt** and that's er /and then we would discover that is was the Pharaohs /and then we could ask the question well /who were they /what did they do and then we could go through that series of questions couldn't we		**Recasting**
Episode 7:Turns 77-83		
	what were their foreign affairs like	
what were their foreign affairs like/ that's their **relationship to their neighbours** /but these days we call that foreign affairs/ I don't know what they would have done it in Egyptian time/ what else/ have we covered all the things that we needed to know/ we've got when when where how did it start/ how did they build the pyramids /just pyramids		**Recasting**

	sphinx	Recasting
yeah all sorts of buildings/ so we might look at their/ we might look at their **architecture** generally because you know/ they just didn't build pyramids/ they built obviously sphinxes but they would have built towns,/all sorts of things which we may tell us more about them/ we've asked the question, who will be/does that lead us to anything else		
	how was it built	
yeah we say something like **how was it organized**		Recasting

During the discussion the teacher writes the focus questions on the board. Figure 4.1 is a representation of the board at the completion of the lesson. Students are expected to copy this into their workbooks. This typical teaching strategy demonstrates appropriate historical questions resulting from the dialogue in which the teacher recasts and recontextualizes students' responses.

Figure 4.1: Focus questions on the board

- When did Ancient Egypt develop and where?
- How did the Egyptian empire begin?

                         Building
- How did they build the pyramids?

                   Architecture

          -time taken

          -where
- Who ruled Ancient Egypt?

    how was society organized
- How did/does Ancient Egypt civilisation effect (sic) <u>us</u>?
- What areas of   KNOWLEDGE DID THEY DEVELOP
- What were the main industries?
- Rel'ship with neighbours
- Religion/Traditions

This pattern of recasting and recontextualizing strategies is also evident in the second lesson of the Macrogenre, *Egypt 2* illustrated in Text 4.3.

Text 4.3

Teacher	Students	Commentary
Egypt 2:Episode 1:Turns 35-36		
ah thank you /we could generalize them and just call them **physical features** couldn't we	**rivers and hills and mountain ranges**	**Recasting** Student response gives constituents of physical features. JT provides more appropriate generalized term.
Episode 3:Turn 148		
I'll just get you to make a list of all the natural features/ physical features/ that were important to Ancient Egypt/ and obviously we've identified those/ the rivers/ the seas for trade/ the river for irrigation/ the desert for protection/ the floods that came out of the Nile for fertilisation of the soil/ we'll go through all these things/ so we'll know where and what sort of location ancient Egypt had		**Recontextualizing** JT recaps on the process so far by referring to what they will need to investigate to answer the focus question of *where*. He demonstrates all these aspects relate to the focus question *where*.
Episode 5:Turns 215-220		
what else would we like to know about Ancient Egypt		
	if there was like a little **community** or a big community	
yeah alright/ OK/ we can look at the/ this will make it sound more complicated than it is / but we can look at the **social/** we can look at/ we can look at the changes that took place during the period of Egypt/ what else		**Recasting** JT recasts *community* into a more generic and historical term *social*
	we could look at lifestyle	
yeah that's probably/we could ask a simple question/ we could ask the question what was it like to live in Ancient Egypt/ and sub-questions to divide into/ that would be something like		**Recontextualizing** JT writes **What it was like to live in Ancient Egypt?**
	how did culture change	**Recontextualizing** JT recontextualizes the student's response and creates a more generic focus question **Social and cultural changes in A/E** written above previous question.

Episode 5:Turns 228-230		
	horoscopes	**Recasting**
	their **number system**	JT takes students'
could we put that under a whole sort of um/ we'll just call it **education/ learning**/ for money and trade I've just put **commerce/** in other words/ how did the Egyptians buy and sell things/ did they /you know/ the ordinary things that they had to trade/ how was that carried out/ the sort of system they used/ marketplaces etc		suggestions and writes them as a sub category **education/learning**, a more technical term. He then adds commerce and explains what it means

Episode 5:Turns 243-244		
	where did the Pharaohs get their **riches** from	**Recasting**
yeah/ Egypt was obviously a very powerful nation/ and a very wealthy one/ you might investigate how they got their wealth/ what it was build on		

Again key ideas from the discussion are written on the board and students copy this into their workbooks. Figure 4.2 illustrates the board at the completion of the lesson.

Figure 4.2: Focus questions on the board

```
2.where?                          1 when?
map ─────▶ world

                                  4. Architecture
          lat.
          long.                   3. How was Anc. Egy  ruled? governed?

Egypt ─▶ North East Africa        5. What relationships did Eg. have with
cities                                         her neighbours?
physical features                             -invasions?
                                              -trade
                                              -alliances
                                              -change
6. Social/cultural changes in A/E    2b Physical environment
7. What it was like to live in A/E?
-food – how produced
-work
-commerce
–education/learning
-wealth
```

By examining the questions on the board it can be seen that the focus questions from *Egypt 1* have been refined in *Egypt 2*. The lessons that follow from the Macrogenre develop content related to each specific focus question. As discussed in Chapter 3, these lessons stand in an elaborating relationship to the Macrogenre lessons *Egypt 1* and *2* and form a third stage in the unit of work, the Curriculum Activity. This is evident in the introduction to *Egypt 3* which appears in Text 4.4, where the teacher refers to the previous lesson and elaborates on the content thus reinforcing the process of historical inquiry.

Text 4.4

Turn	Teacher	Students	Commentary
1	One of the focus questions we started to deal with yesterday were / and I made it easier for you by giving you a big map of the world / and then we looked at the smaller detailed maps of Egypt in the two **/ we are going to start the process now of recording our findings for each one of these focus questions of which where one is probably the easiest one isn't it/ because we've virtually done that/ but I asked you to discover something else about a sort of sub focus question **for the week or last night/ what were you looking at last night**		The focus of this lesson is to teach the students the process of recording information Links back to previous lesson
2		the physical environment	
3	yeah/ the physical environment/ so it was sort of where/ and if you like what it was like/ **we used the word yesterday**/physical environment/ what's another word that describes physical environment		looking for further technical word
4		location	
5	oh yeah/ ok/ what's another word/ you **might have read it last night**		
Few turns missing			
9	… what **you were asked last was to read that section out of these handouts** and identify some of the physical features of Ancient Egypt and sort of start asking the question why those physical features are significant or important to the development of an ancient civilisation/		Links to previous lesson

Section 2: "designed-in" scaffolding

In this section the scaffolding provided by the teacher to support conceptual understanding about the nature of History and the process of historical inquiry is shown to be deliberately planned or "designed-in". In the Induction and Macrogenre stages of

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the unit of work the careful structuring of the sequence of lessons provides the framework for the teacher to introduce then consolidate key notions about the study of History. By drawing on Bernstein's notions of classification and framing, the way in which JT, in the foundational lessons of the Induction genre and Macrogenre, structures and controls the apprenticeship process of becoming an historian can be made explicit.

The term classification is used by Bernstein to show the relations between categories and the degree of insulation from each other. If a category, or in the case of this study a subject, is strongly insulated (C+) then clear subject boundaries are established. This supports the development of a specialized identity for the subject. The opposite occurs with weak insulation (C-) (Bernstein 2000). Framing refers to the control over the selection, sequencing, pacing and criteria of the knowledge to be acquired. Control lies with the teacher with strong framing (+F), whereas with weak framing (-F) control lies with the student (Bernstein 2000). "In short, the principle of the classification regulates what discourse is to be transmitted and its relations to other discourses in a given set (eg a curriculum). The principle of the framing regulates how the discourse is to be transmitted and acquired in the pedagogic context" (Bernstein 2000, p.100).

Bernstein's studies with Daniels (1988, 1989, 1995, cited in Bernstein 2000) about the ability of students to discriminate between Science and Art statements found that the children in the mostly weakly classified and framed classroom (which had an emphasis on personal control, integration of disciplines, project methods) created texts which teachers could not distinguish as Art or Science. However, children in the most strongly classified and framed pedagogic practice produced texts which the teachers could recognize as either Art or Science. A study by Morais' (1993) with Portuguese students on the conditions leading to the acquisition of recognition and realisation rules for solving scientific problems that involved the application of knowledge to new situations concluded that, "the pedagogic practices in which the framing of the instructional discourse was relatively strong were correlated with acquisition of recognition and realisation rules" (Bernstein 2000, p.108). These studies suggest the notions of classification and framing are significant indicators of how effectively students will apply the knowledge and skills from specialized subjects in appropriate texts.

In the History class in this study, JT strongly classifies and frames his pedagogic practice. This is demonstrated in Tables 4.2 and 4 3, where each Episode is coded

according to whether the interaction is strongly or weakly classified and framed. A commentary column provides the reasoning for the classification. As evident in the data, the four foundational lessons are all strongly classified and framed by JT. This pedagogic practice, I suggest, contributes to the students' confidence in understanding the process of historical inquiry and applying this and its associated discourse to the study of their first unit of work on Egypt. JT's particular pedagogic approach has created a framework or scaffold which is "designed-in" to the lessons to provide support for the students as they undertake the apprenticing process of thinking and speaking like historians.

Table 4.2: Classification and framing in Induction genre

What is History? lesson			
Episode	**C**	**F**	**Commentary/evidence from data**
1	+C	+F	
2	+C	+F	
3	+C	+F	
4	+C	+F	A detective analogy is introduced to bring in students' prior knowledge then linked to the role of an historian. Even though there is a different field introduced the classification remains strong as the teacher is responsible for introducing this topic.
5	+C	+F	
6	+C	+F	
7	+C	+F	
The pyjama girl mystery lesson			
1	+C	+F	The entire lesson was outside the domain of History content as it involved investigating a murder, however the lesson maintains strong classification. The teacher still strongly frames the questions in each Episode eg *That's a guess though isn't it* section 13 *I think we can probably lock those two things together can't we* section 31 *can we bracket the towel with that as well* section 35
2	+C	+F	*we're trying to identify a witness aren't we* section 96 *we've at least reduced it to the possibility of two states haven't we* section 100
3	+C	+F	*what is the process that we go through* section 149 *are you going to link it to something else that you're already doing* section 154
4	+C	+F	*what are we going to do with this description* section 196 *we're certainly not told there but it doesn't seem to be significant either at this stage* section 220
5	+C	+F	*the police did what to jog people's memories* section 241 *have they got a suspect* section 245
6	+C	+F	*that he was with her when* section 313 *what was the thing that changed the whole process of solving this crime* section 351

The same pattern is evident in the classification and framing of the Macrogenre. The teacher has a definite idea of the 'flow' or sequence of the lesson demonstrating a

"designed-in" scaffolding approach. This is particularly evident in Episodes 6, 7 and 8 in the *Egypt 1* lesson as illustrated in Table 4.6.

Table 4.3: Classification and framing in Macrogenre

Episode	C	F	Commentary/evidence from data
Egypt 1 lesson:Establishing focus questions			
1	+C	+F	Group work roles explained then students told about group task
2	+C	+F	Students work in groups to establish focus questions for the unit. Teacher allocates group roles and time limits.
3	+C	+F	Teacher still strongly frames the questions in each Episode eg *that is a question that we can um we can address isn't it* section 35
4	+C	+F	*that's a sub-question for this one here really/ we can we can put that one with that one* section 41
5	+C	+F	*why do you want to ask that question anyway/ because just that's presumed isn't it* section 52
6	+C	+F	*I think we're still missing an important focus question somewhere along the line folks* section 64
7	+C	+F	*we're still missing something* section 66b
8	+C	+F	*we've asked the question who will be /does that lead us to anything else* section 82
9	+C	+F	*organisation of society we've got that/ how society was organized/ will we say something under that* section 95
Egypt 2 lesson: Consolidating focus questions			
1	+C	+F	Teacher strongly frames the questions in each Episode eg, *so how are we going to find this out/ how are we going to find an answer to these questions* section 6 *no no what's the best way to report them/ that's the answer/ what's the best way to report or to show to tell where Egypt was* section 12
2	+C	+F	*it's got actually two rivers/ it's a land with two rivers actually/ does it tell us something about ancient societies and rivers* section 101
3	+C	+F	*alright so these are some of the things we are going to be looking at/ we'll be looking at the Pyramid age* section 179
4	+C	+F	*what else/ what would we look at to discover what the Pharaohs were all about/ we'd ask the question how was Ancient Egypt in relation to their Pharaohs* section 182
5	+C	+F	*now I've written a focus question up on the board/ what relationships did Ancient Egypt have with her neighbours/ now invasions in actual fact is a sub-question of that/ isn't it"* section 192

In the Curriculum Activity stage of the unit of work (*Egypt* lessons 3-17) the pattern continues with the teacher controlling the pacing of the lessons (Framing) and the process and language of the topic (Classification). As with the two previous tables, Table 4.4 includes commentaries that illustrate JT's pedagogic practice.

Deleted: commentaries that support .¶

Table 4.4: Classification and framing in subsequent lessons

Egypt lessons	C	F	Commentary
No.3 Physical environment	+C	+F	There are a few instances when the teacher draws on personal experience to elaborate some point related to the content being discussed. For example in *Egypt 3*, JT refers to his experiences when travelling in Egypt. However, this is still related to the discourse of History and used to exemplify a point in the lesson.
No.13 Role of Pharaoh	+C	+F	JT directs questions to students from a worksheet and through questioning guides students to see why the Pharaoh had ultimate control.
No.14 Egyptian army	+C	+F	JT begins to read and discuss the worksheet handed out to students, then students are told to work independently or in pairs to answer the questions on the worksheet while he discusses pictures with some students. Towards the end of the lesson he begins to discuss with the whole class the role of different soldiers in the army and the kinds of weapons each would have. Classification and framing remains strong throughout the lesson although the teacher's role changes during the lesson.
No.15 Social pyramid	+C	+F	Students worked in groups to complete a social pyramid then JT begins to discuss student results.
No.17 Building a pyramid	+C	+F	Students worked in groups to complete the assignment on building a pyramid. They had to plan the steps in the process and show: • what has to be done and how it will be done • the instructions/plan where possible Some students were confused about how a pyramid was levelled so the teacher explained this to the whole class then students returned to their own work.

Section 3: activity within the classroom: the social and collaborative nature of the actions

As discussed in Chapter 2, the tri-stratal account of human behaviour offered by Activity theory provides a framework for examining how the experiences/activities within a real life situation (the classroom) and interactions between teacher-students and students-students contribute to the development of students' cognition and language. As previously stated, the three strata are "activity", "action" and "operation". The goal-oriented "action" of the lesson is central to the "activity" itself that provides the motivation. The "operations" are the steps undertaken within the lesson to achieve the goal that in turn realizes the motivation. In a learning context, the "action" can consist of what Leont'ev refers to as a chain of actions organized in a hierarchy of Episodes and "strategic steps" (Wells 1999). In this study, the goal of each lesson is for the students to gain understanding of particular concepts and events developed through "strategic steps". This constitutes the "action" of the lesson/s that are situated within the category

of "activity" and these are determined by the teacher. Engestrom's expanded model of activity, which offers an analysis of complex interactions and interrelationships and explicates the social and collaborative nature of actions, is applied to describe the various elements that interact within a classroom context. This is described in detail in Chapter 2: Activity Theory and its contribution to classroom practice. Activity Theory is applied to this research at two levels. The first level is the analysis of the study of History as a discrete subject in high school situated within its sociocultural context at a system level. The second level is the local level where the first four lessons that create the Induction genre and the Macrogenre in this study are analysed. This is discussed in Chapter 2: Applications of Activity Theory to the classroom. In applying the model in the two contexts the congruence between the system activity and the local activity is demonstrated as well as the discrete nature or strong classification of the subject area.

The interactions within the lessons are underpinned by the teacher's theory of learning (often implicit). As Wells comments:

> In encouraging or restricting certain kinds of behaviour, both verbal and nonverbal, therefore, the teacher is operationalizing his or her theory of education.
> (Wells 1999, p.171)

Over a series of lessons, the cumulative understandings of historical content and the process of historical inquiry gained through the "action" of achieving the lesson goals contribute to the students' acculturation into the discourse of History and methods of historical investigation. This process is realized externally through discussion and different tasks that are set in the classroom that enable the reproduction of culture, then internalized and transformed to become new knowledge about the multiple facets that constitute the study of History. Through the actions involved in the activity of 'doing History', students are inducted into the culture of school History and its inherent discourse demands.

Part 2: analysis of data in Induction genre

Part 2 is divided into five sections, each of which focuses on a different approach to analysing the ways in which JT establishes key concepts about the nature and methodology of historical study in the two lessons of the Induction genre. Section 1

drawing on transitivity analysis and Section 2 drawing on lexical relations analysis describe the way in which the experiential nature of the discourse unfolds to 'semiotically unravel' the abstract nature of historical study. Section 3 demonstrates the various questioning techniques employed to support the co-construction of meaning. Section 4 illustrates the use of paralleling as another scaffolding technique and further exemplifies recontextualizing strategies of repetition, recasting and appropriation. Section 5 discusses additional semiotic systems used to construct critical information in the lesson.

Section 1: 'unpacking' History through transitivity analysis

If teaching and learning is about supporting students to make meaning, then a study of the discourse of making meaning in History requires a grammar with which to explain **how** language makes meaning. SFL provides such a detailed grammar. By analyzing the classroom interactions at the level of "operation" it is possible to track how the teacher supports the development of his students' conceptual understanding.

The two lessons that constitute the Induction genre, *What is History?* and *The pyjama girl mystery* have been divided into clauses and analyzed for their ideational function, "its role as a means of representing patterns of experience" (Halliday 1985, p.101) through the system of **transitivity.** As stated in Chapter 3, transitivity is the grammatical realization of certain aspects of experience used for reflecting our experience of the world. (A detailed explanation of transitivity analysis appears in Chapter 3: types of analysis: linguistic) It focuses on what is happening or the state of affairs in the clause (Processes), who or what is involved (Participants) and finally the Circumstances that describe the features of the context in which the processes take place. Transitivity analysis enables the experiential meanings of the text to be tracked and reveals the way in which concepts are developed through the content.

As already discussed in Chapter 3, of particular interest in my data is the use of relational processes. To recap briefly, the main function of these is to relate a participant to its identity or its description. Relational processes are further divided into *relational attributive* clauses that relate a Participant to its general characteristics or description or *relational identifying* clauses that relate a Participant to its identity, role or meaning (Butt et al 2000). *Attributive relational* processes carry the characteristics or attributes of a participant while the identifying relational processes "called 'the engine room' or

'power house' of semiosis perform two functions" (Butt 2000, p 59). The first function provides a new identify, coded as *Identifier/identified*. The second function is significant in my analysis and it is this function which earns the term 'power house of semiosis'. "This function allows us to take any form and identify its function and, conversely, to take any function and identify its form" (Butt et al 2000, 59). That is, the relationship between two things, one the *Token* and the other the *Value* can be shown. In secondary classrooms, the use of both *identifying relational* processes and *attributive relational* processes are very common and of significance as they enable the teacher to support students to build technical knowledge in their subject areas through definitions of what things are (realized in *identifying relational* processes) and through being able to see what the characteristics of things are (realized in *attributive relational* processes).

Semiotic unravelling: What is History? lesson

In the foundational lesson *What is History?,* JT tries to establish what the study of History is. He provides a list of words for the students – *change, effects, past, people* and *cause* then asks students to complete the sentence *History is... .*

In asking the students to complete the sentence beginning *History is...* in the first lesson, JT sets up from the beginning an *identifying relational* process relationship (consisting of Token and Value) to define History. The function of these types of clauses, as discussed in Chapter 3, is to build technical understanding. Typically the subject is Token and the predicate is Value, however, in the case of the sentence *History is... History* is the Value as it establishes the function of History. The significance of this is demonstrated in the following discussion.

In the classroom domain many specialized terms are used to build new information. Macken-Horarik (1996) discusses cultural domains in schools and suggests three: everyday, specialized and reflexive. In the specialized domain students are initiated into the forms of knowledge relevant to the subject discipline. Everyday or commonsense understandings make way for new constructions of knowledge. In this classroom the history teacher JT attempts to "unpack" the abstract Value *History* through a number of key words – *change, effects, past, people, cause.*

12   *OK these are the things [[we have to remember]]change effect past people events*
      causes
      Tk   Pr:id   Vl

18   *( ) words [[that relate specifically to the discipline of History]]*
      Vl

However, in trying to respond to this question, the students construct *attributive circumstantial relational* clauses, which describe what *history is about*, rather than *intensive identifying relational* clauses that define what *history is.* The teacher has influenced the students' responses by asking them to *just quickly then see/ if you can write down a descriptive sentence **about History***. The change from *History is...* to *History is about* changes the outcome from a response that is a Token in *History is...* to one that is an *attributive circumstantial* process with the response being an attribute conflated with circumstance of matter in *History is about... .*

One way of considering this shift in clause type from one of defining to ascribing general characteristics is that there are many different views and ways of defining what History is and in choosing a circumstantial clause these areas can be explored. It could also be argued that the use of *attributive* clauses over *identifying* creates a bridge for students into understanding the elements that construct History before they can define History. The teacher recognizes the complexity of the task and by discussing the students' written definitions of *History is..* (which are in fact descriptions) the teacher orally performs a type of 'semiotic unravelling' that allows the reconceptualisation of *History* as something that is multifaceted and quite complex. As stated by JT:

> *History is about the study of change// and [[what causes it]]// [[how it has*
> *affected people's lives etc etc]]//.something like that// causes that's [[what*
> *historians are looking at]]// changes// what caused it// (clauses 134-102)*

So in effect JT, through the *attributive relational* clauses, has by the end of Episode 2 unravelled for the students the various elements that constitute the study of History. These elements are expressed in the attributes of the clauses following which are manifestations of History.

Carrier	Attribute
History	– *is about the study of change and what causes it*
	– (*is about*) *how it has affected people's lives etc etc*
	– (*is about*) *causes that's what historians are looking at changes what caused it*
(Concept of History)	(Various manifestations of History)

Thus, the teacher linguistically provides the opportunity for the students to consider History as being about a number of things simultaneously. At the same time, an interim stage is provided for the students to internalize the different aspects of historical study (seen in the key words) through the *attributive circumstantial* clauses rather than immediately moving to the *intensive identifying* clause of defining what History is. JT is attempting to 'demystify the Value' of History but builds the concept slowly through describing what History is about. He endeavours to apprentice students into the specialized domain of the subject through both increasing the level of formality of the language through strategies such as recasting and recontextualizing and at the same time he "unpacks" the conceptually complex metaphor of History.

The idea presented above has its genesis in David Butt's work on critical abstractions discussed in Chapter 2. He defines critical abstractions as "a linguistic strategy for introducing an abstract tool." (Butt 1998, p.1) He states: "basically, critical abstraction 'naturalises' what has developed through specialisation; it finds a common experience at the root of uncommon sense" (Butt 1998, p.7).

Following is an in-depth discussion of the transitivity analysis from both lessons in the Induction genre that demonstrates the way in which basic concepts in History are developed.

Establishing basic concepts in History

Episodes 1 and 2

As stated in the introduction to this section, the grammatical system transitivity realizes the experiential function of language that encodes our experience of the world. It is a

way of representing patterns of experience used to convey a picture of reality. By examining the transitivity system in the two lessons of the Induction genre it is possible to trace linguistically exactly how JT develops critical concepts about what the study of History entails.

In the analysis both ranked clauses (clauses operating at the level of clause) and embedded clauses (clauses that are operating at the level of group) are analysed. A summary of the different types of clauses is provided in Appendix 5. The significance of process choices in the data is explained in this section.

The predominant process choice in ranked clauses in Episode 1 is *relational* (33 clauses) This focus is consistent with the teacher's purpose, which is to define *what History is*. He begins by listing key words on the board which relate to the study of History – *change effects, past*, *people* and *cause*

> *oh yeah these are the words [[we picked out of these sorts of sentences]]*
> (clause 13)

Then the teacher establishes these as being Tokens for History, that is, words that stand for what is being defined.

> *( )words [[that relate specifically to the discipline of history]]* (clause 18)

Only *people* is a concrete noun with all the others being abstract nouns. The abstract nature of the elements that constitute History means that as a subject, History is likely to be conceptually complex for students to grasp.

The sentence starter *History is...*(clause 42) sets up an *identifying relational* process choice which the students pursue in their own definitions and which include the key words. The three students who wrote their definitions on the board have used *effects* as a process *effected* (sic). Student 1 has changed *cause* to the process *caused* and student 2 has used the congruent verb form *changed* rather than the nominalized form *change* provided by the teacher.

> **Student 1***: History is about people [[who have effected the past]]//and caused//...a change in the present// (Turn 13)*

> **Student 3***:History is about the past people [[who have changed/and effected our lives]]// (turn 17)*

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Note student 2 did not use the sentence starter provided by the teacher however he did use all the key words provided.

> **Student 2:** *Changes in people effect times// which causes History// (Turn 15)*

When asked by the teacher to explain what he meant the student replied:

> *[[What people do]] makes History//*

It is significant that all students have focused on *people* in their definitions as the central word from which all the other words are attached. Student 2 further demonstrates his view of History as being people-focused in his oral explanation of his written definition *What people do makes History*. Also of interest is the analysis of a number of words that I believe appear to have a particular grammatically metaphoric role in establishing the concept of History. The clause in which the process that is of interest follows, with a discussion of the analysis included.

> *History was a series of events [[that occurred in the past]]*
>   Pr:mat:historical circ:time
>
> Vl   Pr:int Tk   clause

This clause is an *identifying relational* clause with *a series of events that occurred in the past* as Token. The Value^ (^ means followed by) Token, while an unusual pattern in definitions (typically these are Token^Value), is a typical pattern throughout Episodes 1 and 2. This is significant because the teacher is trying to help students understand what are the elements (the Tokens) that are important in historical study (the Value) by unpacking the abstract concept of what History is about through the Tokens. So, by changing the pattern from Token^ Value to Value^ Token, JT explicitly foregrounds through naming, the key elements which are significant in the study of History. He then goes on to establish how the actions of people and events constitute History through a specific usage of certain processes.

In the embedded clause of the clause above, the word *occurred* is a *material* process related to the events. It plays an important role in establishing a relationship between event and action or happening and so seems to be a specific type of *material* process that has particular significance in historical study. Thus I have used an additional label of *material (historical)* to capture this purpose. Other instances of this specific use of

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material (historical) processes is evident in the words *changed* and *effected (sic),* again because of their specific and significant role in establishing historical understandings. By examining the use of *effected (sic)* in the definitions below it can be seen this word has a more material meaning rather than a mental one. For example, in student one's definition, *effected (sic)* could be read as p*eople who have changed the past,* thus making the process *material.*

Student 1: *History is about people [[who have effected the past]]*
                        Actor Pr:mat (hist) Circ:time
        Carrier Pr:circum Attribute/circ

Student 3 also uses these *material (historical)* processes in his definition.

Student 3: *History is about the past people [[who have changed/and effected our*
                              Actor Pr: mat (hist) / Pr:mat (hist)
        Carrier Pr:circum Circ:matter

                                        lives]]

Another significant process is *caused.* This can be coded as a *causative circumstantial* verb that shows the causative relationship between participants (Eggins 1994*).*The verb *makes* can also be treated this way. They have been analysed as a type of *relational historical* process for the same reasons as the *material historical* processes discussed above.

    [[What people do]]   *makes*   *history*
    Goal Actor Pr:mat

      Tk   Pr:causative:circ(hist)   Vl

Both *material (historical)* and *causative* processes are used extensively in historical discussion and have particular significance because they clearly establish cause and effect relationships that are critical to historical analysis. The use of these types of processes by the teacher highlights for the students the relationships that are being established.

Once key tokens for History and their relationships through the *material (historical)* and *causative* processes have been introduced, the teacher now turns his attention in Episode 2 to focus on the students' understanding of History as being about *people-oriented* to *event-oriented.* He asks the students to identify (multimodally by pointing to the words on the board) the strongest word to describe what History is.

> *alright then what's this// describes this word// take those three sentences*
> *//which <do you think> is the strongest word amongst all those things [[that*
> *describe what history is]]//( )is the study of//(clauses 96-102)*
>
> S: *the past*

This appears to be a logical response given that the third student definition, which focuses on the past, has just been read aloud and students have learnt over many years of schooling to cue into the teacher's pattern of repeating a student response, confirming it and moving on. As discussed in Chapter 3, this is known as the IRF or IRE pattern. However, it can be seen in the next sequence that the students have misunderstood this cue. JT appears to have a definite idea of what he wants his students to understand, (that is, that History is not about individuals but rather the events themselves and how they bring about change), so he uses an alternative approach to elicit the answer he wants.

> *Do you think//that's the strongest word//OK let's rate them//who says//the*
> *strongest word is past// history is about the past//it seems// we've got a lack*
> *of confidence here//( )a nice strong word [[to describe]]what history is//*
> *(clauses 104-113)*

The students are asked to raise their hands when the teacher points to each key word on the board. These words are the ones written at the beginning of the lesson *change, effects, past, people* and *cause*. JT writes a tally mark next to each word as students respond and establishes his preferred key word as *change* by using the process of *like*. In this way he explicitly tells the students the word *change* is what he wants them to choose.

> *is it change// who likes change (students raise hands) yeah I **like** that one*
> *too// I like change// (clauses 114-117)*

Once he has marked for the students that this is the most significant word he sets about supporting the students to adjust their understanding of what History is from *people* and *past* to one of *change*. How he achieves this can be tracked linguistically in the clauses 122-129 below. First, he links through *behavioural* processes the phenomenon of *change* in clause 122 to the phenomenon of *the past* in clause 123 and *people* in clause 126. Then in clause 127, the nominalized phenomenon *change* (as a noun) is used in its congruent verb form as a *material (historical)* process *have changed* to link the ideas of

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people and *change*. This link backwards appears to show students where they have been in their thinking about History (ie as being focused on the concrete noun *people* in the past) and is then used as a bridge to the next level of understanding that requires the use of the abstract term *change.* The teacher reinforces the move in clauses 128-129.

This movement from everyday understanding to more abstract concept is an explicit form of scaffolding-a kind of 'relexicalisation' (McCarthy, 1991). McCarthy uses this term to refer to the way in which, in developing conversations, speakers take up, repeat and modify the vocabulary selections of others in order to expand, develop or change topics. Although the oral scaffolding by the teacher does not exactly equate in the strict sense with McCarthy's term 'relexicalisation', the principle of using a new word to label a new concept which has been 'unpacked' does seem to provide a form of 'relexicalisation'.

122.*if we study change*
  Behaver Pr:behav. Phenomenon

123.*you've got to look at the past*
       Behaver Pr:behav Phenomenon

124.*to be able to describe what changes [[have occurred]]*
          Pr:verbal   Verbiage   Pr:material

125.*what else have we got to do*
          Actor   Pr:material

126.*look at people*
    Pr:behav Phen

127.*how people have changed*
       Actor   Pr:material (hist)

128.*yeah so in describing change*
         Pr:verbal Verbiage

129.*we are in actual fact describing people*
             Pr:verbal   Verbiage

Once the teacher has established the links between the key words *change, people* and *past* he asks the students

    what do we do// when we look at change (clauses 130-31)

The student response *in what way it's affected us* (clause 132), is repeated by the teacher as an affirmation. Another student then offers the word *causes* which is the final word on the list of words on the board. The teacher now links the attribute *change* with the *causative circumstantial (historical)* process *Yeah what causes the change'*(clause 135) and then recaps by explaining History as being the study of change and what causes it and how it affects people's lives (clauses 137-9).

137. *history is about the study of **change***
  Carrier   Pr:circ   Attribute

138. *and ( )   [[what   **causes**   it]]*
  (Pr:circ)   [[Actor Pr:circ (hist) Goal
              Attribute

139.*( )   [[how   it   has **affected**   people's lives etc etc]]*
   (Pr:circ)   [[Circ:matter Actor Pr:mat (hist) Goal
              Attribute

JT then nominalizes the verb *cause* thus creating another Token for History. This is the one he wants the students to understand as being the most significant since causality is a key concept in the study of History (as can be seen in the History course performance descriptors discussed in Chapter 3).

141.***cause** that's [[what historians are looking at]]*
                  Phen.   Senser   Pr:mental
        Tk   Pr:int   Vl

142.*changes*

143.*what caused it*
     Tk Pr:causative circ (hist) Vl

The teacher has now unpacked what History is through the Tokens – *change, causes and effects* (as captured in the verb *affected)* and what they mean in relation to how History is studied. He has supported the students as they move to a more sophisticated understanding of History as being not related to *people* but to the study of *change* and what causes it. This significant shift is in line with the syllabus rationale that states: "History furnishes students with a liberal education and provides them with a sense of the past, an appreciation of context, continuity and tradition, an understanding of the processes of change, and a perspective on present culture" (NSW Board of Studies 1999, History Syllabus Stages 4-5, p. 6, underlining my emphasis).

Episodes 3 and 4

In Episode 3 the teacher tries to establish what historians do. He asks the students to imagine they are a professor of History at UNSW and that they want to write a new thesis, thus establishing through the mental process *imagine* a way of helping students associate with a familiar place and event. The students are unable to be specific enough in their response of *investigate things around us* (clause 157) and *any of the important things [[that are happening nowadays]]* (clause 158) so JT responds contingently. He guides the students by focussing on an event and parallelling what a detective does when he investigates a crime with what an historian does when he is engaged in an historical investigation. This is the focus of Episode 4. There are 184 clauses in Episode 4, a third of which are material processes mostly consisting of processes such as ***chooses*** an event; ***finding*** the location; what ***took place***; what ***happened***; ***getting*** all the information; we're ***starting to construct*** a whole series of words that describe *[[what historians **are doing**]]; **seeks** witneses.*

The clauses 221-261 contain a significant number of mental processes related to the discussion about how the detective works out what took place. For example *they like **try to work** it **out**; and they **look for** [[what we call]] collaborative evidence; they **look at** objects; they **hypothesize**; yes they **try to look at** photos.* The use of mental processes appears to support the view that the truth of History is really an interpretation of events (requiring mental processes) created by the writer. As one History teacher writes

> There are many paths into the past and an historian's task is to impose an order upon the chaos. Historical truth, therefore is not absolute but interpretive. Historians can never detach themselves totally from the events they describe. Historical objectivity lies in the judicious critique of evidence.
> (Paterson 2002, p.14)

The discussion then moves back to a *material* process orientation (in bold) when the teacher says:

> *so all that scientific evidence// **to try and piece** it **together**// what sort of sources **would** an historian **use**// because now we're talking about an event [[that is something that's **taken place**]]* (clauses 267-70)

and focuses on types of records that could be used to provide evidence eg he could **go to** the source of the crime; he **could use** archaeological evidence; records such as official records [[**kept** by governments]]; historians **use** other historians.

The teacher completes this Episode on investigating an event by using processes that could be either *material* or *mental*. This duality indicates the parallel nature of the detective's and historian's role respectively, in first the collection and then the interpretation of data. An example of this duality in this section is the verb *choose*. It has been coded as a *material* process as there are material consequences of this active choice, although there is also the aspect of making a choice requiring mental activity. Similarly, the verb *hypothesize* is coded as a *mental* process even though there is a sense of implicit action occurring.

In this section only the processes analysed are shown to explicate the types of processes used.

*336.we **choose** an event*
        Pr:material

*341.we **hypothesize** about what*
        Pr:mental

Episodes 5 and 6

Once the teacher has established the first step in an historical investigation, that is, what event took place, he then turns the focus to *how* and *why,* thus introducing the concept of causality. To support students in understanding these more complex aspects of investigation, he creates an analogy for the students using a familiar experience. He refers to the process a detective performs when investigating a death. The then recent death of Diana, Princess of Wales, is used to demonstrate the process of collecting evidence to find a cause. The notion of causality is reinforced through the use of the *causative circumstantial (historical) relational* processes in clauses 348 *causing her to die*, and 353, *that led to her death*.

344.in the case of Diana's death we've got all [[we can collect]]
                                        Pr:poss

345. ( )all the information from the eyewitnesses photographs forensic tests blood alcohol levels of the driver etc
                        Attribute/poss

346.give an explanation of why on that night
   Pr:verbal
347.that car crashed
         Pr:mat

348.causing her to die
    Pr: causative:circ(hist)

349.the fact [[that she had no seat belt]] may have been a contributing factor

                          Pr:int
350.all that evidence was collected
           Pr:mat

351.in order to explain
        Pr:verbal

352.how the whole event occurred
          Pr:mat (hist)

353.that led to her death
    Pr: causative:circ (hist)

In Episode 6, the teacher continues to explore causality through asking *why it occurred (clause 365).* Again he relates this question to Diana's death and he gives the answer through the circumstances *because of the sequence of events* and *because of that overdegree of interest in her movements* that are related to the *material historical* process oc*curred*. Next, JT links the reasoning he has established with the detective analogy to what historians do by using an *identifying relational* process. All the previous information about how and why is captured in clause 368 as Token *that* followed by Value *what historians do.*

365. ( ) [[why   it   occurred]]
(Pr:verbal) Circ:cause Actor   Pr:mat(hist)

366.because of the sequence of events what and how placed into a course of action
    Circ: cause   Goal   Pr:mat Circ: location
because of that overdegree of interest in her movements
    Circ: cause

367.and so people explain the events
        Sayer Pr: verbal Verbiage

368.now that's [[what historians do]] as well
            [Actor Pr:material]
      Tk Pr:id   Value

The final Episode in the lesson completes the lesson cycle, where the teacher now supplies his rationale for studying History and links to the key words identified in Episode 1. This is an important stage as the relationship between what the study of History entails, established in the first part of the lesson, and how it is undertaken, established through the detective analogy, is brought together. It is possible to track how the teacher achieves this fusion of the two aspects that make up historical study and describe the process linguistically through the transitivity analysis in the clauses following.

In clauses 376-7, *it* acts as carrier standing for *the study of History* and denotes two of the key words, *past* and *change* introduced in the beginning of the lesson and contained in the *circumstantial* clauses *it will be related to the past// it will be related to the change*. In clause 380, the historian (or apprentice historians as these students are) is cast as assigning agent through the verb *have to relate,* implying the students make choices about the way events are interpreted. As well, the teacher foreshadows there is more to add to the study of History than looking solely at the *past* and *change* with the word *that.*

376.it will be related to the past
    Pr:circ Attribute/circ of matter

377.it will be related to the change
    Pr:circ Attribute/circ of matter

378.and something else [[that you all included]]
                    Actor Pr:mat
        Attribute

379.most of you included in your one little sentence
        Actor Pr:mat   Circ:matter

380.somehow **we**'*ve   got to relate that*
    Agent/attributor Pr:circ   Carrier

JT is trying to establish the key notion of looking at the present in the light of the past. Again the way he achieves this is revealed through the transitivity analysis. In clauses 381-91, JT connects the attributes *past* with the student response of *present* through *mental* processes *looking at and see.* The choice of *mental* processes highlights the importance of interpretation in History, a skill recognized as critical for the study of the History "allows students to gain historical knowledge and skills, and to evaluate

competing versions of the past within a rational framework of inquiry" (NSW Board of Studies 1999, History Syllabus Stages 4-5 p.6).

> Teacher: what's the point [[of **looking at** things]] in the **past** //what's the
> point [[of **looking at the past**]]
> Student1: discovery
> Student2: **to see**// how it's changed the **present**
> Teacher**: to see**// how it's changed the **present**// it's all very well //but unless
> we can relate   those changes to [[how it affects us]]//or [[how it may
> potentially affect our future]]// it ain't worth doin'

By using the verb *relate,* coded as a *circumstantial* clause, the teacher creates a link between studying changes in the past (captured in *that* in clause 380) with the present (clause 391)

*380. somehow you'   ve got to relate   **that***
        Agent/attributor   Pr:circum   Carrier

389. but unless we can relate those changes   to [[how it affects us]]
                                                circ:extent pr:mat (hist) beneficiary
            Agent Pr:circum Carrier   Attribute

392. OK so historians always relate things   to the impact on the present
            Agent/attributor Pr:circum Carrier   Attribute
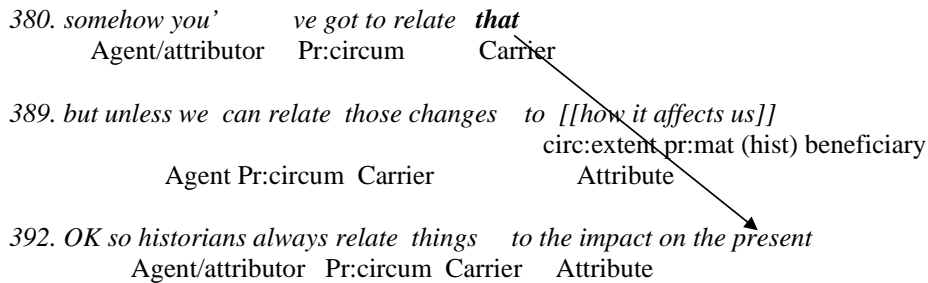
JT continues to make explicit links with the key words *changes* and *effect* in the following clauses: *but unless we can relate those **change**s to [[how it affects us]]//or [[how it may potentially **affect** our future]]// it ain't worth doin.* By using the nominalized form *the impact on the present* in clause 392: *OK so historians always relate things to the impact on the present,* the *circumstantial* process *relate* makes it possible to create a shift from the more familiar or everyday term *changes* to the abstract *impact on the present.*
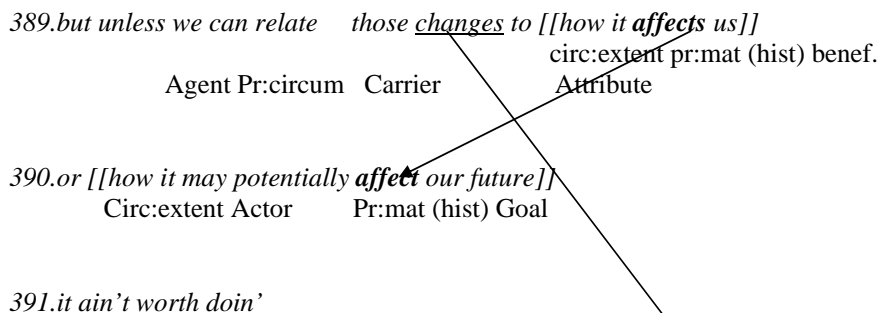
*389.but unless we can relate   those changes to [[how it **affects** us]]*
                                                circ:extent pr:mat (hist) benef.
            Agent Pr:circum   Carrier   Attribute

*390.or [[how it may potentially **affect** our future]]*
            Circ:extent Actor   Pr:mat (hist) Goal

391.it ain't worth doin'

      Actor Pr:mat

392.OK so historians always relate   things to the <u>impact on the present</u>
           Agent/attributor Pr:circum carrier   Attribute

In this final Episode, clauses 401-413, the teacher responds to his own question, *what's the point of looking at things in the past/* (clause 381) and thus provides his rationale for studying History:

> *if I **wanted to understand**// who I am as a person// I've **got to understand** my history //and this is [[why History is so important]]//and ( ) [[why this word here is so important]]/ /if I **want to understand** my country// I've **got to understand** its history //if I **want to understand** the world// and ( ) the way [[it is]]// and ( ) all the troubles and strifes and good things about the world// I've **got to understand** its history //if I **can't understand** modern politics// unless I **understand** the politics of the past// ( ) same thing// so it is absolutely essential// if I **want to understand** our world// the world [[we live in now]] and the future and ourselves// **to understand** the History of it.*

The mental process of cognition *understand* dominates in these clauses (14 out of 32 ranked clauses) with high modality captured in the verbal operators *wanted* and *got* and modal adjuncts *not* and *absolutely essential*. This choice of *understand* represents the study of History as one that requires cognitive processing and is consistent with the History syllabus rationale.

> It allows students to develop their critical powers and to grasp the superiority of thinking and evaluation over an impulsive and uninformed rush to judgement and decision.
> (NSW Board of Studies 1999, History Syllabus Stages 4-5, p.6)

There is also a shift in the mental clause phenomena from specific to general evident in the following : *my history* (clause 398) and *my country* (clause 401) which changes to *the world* (clause 403), *modern politics* (clause 407)and th*e politics of the past* (clause 407). Then there is a re-shifting back to the specific phenomenon *our world* (clause 411) followed immediately in the next clause by *the world.* By drawing on the grammar of the transitivity system, it is possible to articulate the way in which JT is able to develop his rationale for studying History. At the same time he supports student understanding as he moves back and forth from everyday or commonsense

understanding to academic knowledge. This is represented diagrammatically in the
Table 4.5 and in full transcript with commentary in Table 4.6: shifting the focus.

Table 4.5: Everyday to academic language

everyday language	academic language
my history }	
my country }	
	the world
	modern politics
	the politics of the past
our world	
the world we live in	
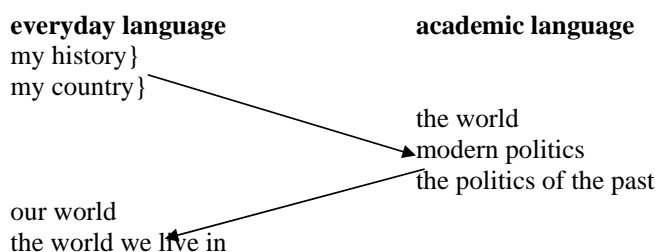
Table 4.6: Shifting the focus

		grammar	focus
	...impact on the present		
i	if I was trying to explain who I was as a person I would have to explain **my history**	*I* as participant use of pronouns *I* and *my* past tense verbal process *explain* repeated	focus on self
ii	if I wanted to understand who I am as a person I've got to understand **my history**	*I* as participant use of pronouns *I* and *my* present tense mental process *understand* repeated	focus on self shift to mental domain through verb
iii	if I want to understand **my country** I've got to understand **its history**	*I* as participant use of pronouns *I* and *my* present tense mental process *understand* repeated	focus on country maintains mental domain
iv	if I want to understand **the world** and the way it is and all the troubles and strifes and good things about the world /I've got to understand **its history**	generic participants *world; trouble and strifes; good things'* present tense mental process understand repeated	focus on world
v	if I can't understand **modern politics** unless I understand the **politics of the past**	generic participants *modern politics; politics of the past* use of negative polarity - *can't* and concessive conjunction - *unless* antonyms *modern politics ; politics of the past*	focus on global - links present to past

vi	if I want to understand our world/ the world we live in now and the future and ourselves to understand the history of it	generic participant *world* repeated personal pronouns *I, we*; mental process *understand* *future* contrasted with *history* (implying past)	focus on global. Reverse order from (I) ie global – *the world* – to specific – *ourselves*.

The teacher has established through this sequence the notion that 'the past is in the present', a familiar notion whereby "we [also] study the past to explain the present and prepare for the future" (Paterson 2002, p.14). Throughout this lesson JT has established the groundwork for the 'long conversation' (Mercer 1992) about *What is History?* This 'conversation' unfolds and grows as the students continue their apprenticeship as historians in the next lesson in the Induction genre, an investigation into a murder.

'Concretizing' the process: The pyjama girl mystery lesson

In this next lesson, the teacher consolidates his students' understanding about what the study of History entails through a concrete experience. The students are set the task of investigating a famous murder mystery that occurred in Australia in 1934. Students were given a set of clues related to the murder in the previous lesson and there was some discussion in groups regarding the sorts of things an investigator would need to do to solve the mystery. As in the previous lesson, the parallel between the practices of a detective and an historian is made, providing for the students a link from personal experience to historical practice.

Of particular interest in understanding the work being done by the teacher's talk, is that in the transitivity analysis of this lesson there are a number of processes that could be coded as *material* or *mental* processes (*material* processes relate to physical actions while *mental* processes relate to thoughts and feelings). Processes such as *find* or *find out, solve, identify, investigate* and *establish* fall into this category. It appears the teacher is trying to 'concretize' the process of understanding the steps in inquiry by using *material* processes that metaphorically describe the mental journey upon which he takes the students. In other words he is constructing a step by step journey using *material-like* verbs which create cognitive hooks for the students as they piece together the stages in an inquiry process. In my analysis I have chosen to code them as *material* while acknowledging their dual role. In Episode 1 there are some examples of this potential double coding underlined in the following processes: *and we the first half we*

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set out actually just to identify bits of information (clause 2);*what is the first problem we have got to solve* (clause 5); *but most of these clues should be aimed at establishing this girl's identity* (clause 9); *to try to identify her* (clause 21)and *to find out* (clause 22). They also appear throughout the other Episodes and are strongly represented in Episode 6, where the teacher focuses on bringing the inquiry process to a close by discussing the final clue and linking all the clues together to find the murderer. In other words, the students fit all the pieces of the jigsaw puzzle together.

Episode 1

In this Episode it is possible to see how JT guides his students to make connections about the way in which an investigation should be conducted through his choice of processes in the transitivity system. In Episode 1, 68 of 170 complete clauses contain *material* processes. As the purpose of this first Episode is to solve the identity of the murdered woman using the pyjama clue, it is logical that over a third of the clauses relate to discussion about where the pyjamas might be purchased from, the physical analysis of the clues by experts regarding the pyjamas, towel and bag and also actions that could be taken to identify the body. At the same time, JT is leading his students to consider what the clues reveal (through the *mental* processes) and how they relate to each other and what they indicate (through the *relational* processes). The systematic development of clues is similar to the process of building a jigsaw puzzle. Each clue links in some way to other clues. The challenge for the teacher is to create the opportunities for the students to make the connections and JT is successful in achieving this.

One way of describing how JT supports students to make links is by examining his use of tags, that is questions at the end of a statement. He uses a number of these tags in this Episode and they fulfil various discourse purposes. Firstly, JT uses tags as a discourse device to keep the students 'on track' with his line of reasoning. This indicates his strong framing of the lesson (discussed in Section 2).This is evident in clauses 67, 86, 184, 208 which are all statements made by the teacher with a tag included. Tags are significant as this is one strategy the teacher can utilize to make explicit the teacher's thinking about how the clues relate to solving the mystery.

67.well we wouldn't have to go much further would we ++ (tag)
        Actor   Pr:mat   Circ:extent

86.that we can probably lock those two things together <u>can't we</u> ++ (tag)
      Actor   Pr:mat   Goal   Circ:loc.

184.but we've got to eliminate those <u>don't we</u> ++ (tag)
      Actor   Pr:mat   Goal

208 it could be almost anybody of 1200 people <u>couldn't it</u> ++ (tag)
    Tk   Pr:id   Vl

Clauses 44 and 173 are acknowledgments of student offerings, but the tag represents a rejection of them. Students have learnt to 'read' these as rejections over years of schooling. Although not the case in this study, there are implications for ESL students and users of non-standard English, who may not 'read' the teacher's intended message. This is beyond the scope of this study, but is relevant when trying to describe the way in which teachers support students from varied language backgrounds to construct knowledge.

44.possibly, that's a guess though <u>isn't it</u> ++(tag)
              Carrier Pr:int Attribute

173.but we're going to try and close our possibilities down <u>haven't we</u> ++ (tag)

      Actor   Pr:mat   Goal

Clause 57 confirms the student offering in the previous clause and clause177 denotes solidarity with the students

57. S3: no like a name tag of the owner (incomplete clause)

177.yeah well I guess we're up the creek <u>aren't we</u> ++(tag)
              Carrier Pr:int Attribute/circ

Episode 2

JT continues to guide the students through the process of investigating each clue as a way of modelling the investigation process. As with Episode 1, the *material* processes dominate in three of the four sequences in this Episode. They are concerned with exploring the location clue and the state of the body when it was found. Sequence two has a slightly different focus, which is about witnesses noticing strangers in the town. JT refers to the destruction of the Greenpeace ship, the Rainbow Warrior, to reinforce the point about the importance of witnesses. This aside connects the investigative process to something which is familiar to the students and also accounts for the higher number of mental processes in this sequence.

Again in this Episode there are processes that have a dual role in being coded as material although they involve mental action. As stated previously, these processes function to metaphorically describe the mental steps in an investigative journey. *Check out* (clauses 294,303, 311) and *eliminate* (clause 306) are examples of this dual role. (Refer to Appendix 4 for these examples in the transcript).

Episode 3

Conceptual hooks continue to be created for the students about how clues are used in an investigation. The focus of Episode 3 is the investigation of the tyre clue. JT reminds the students they are investigating a source by asking: *what is the process that we go through* (clause 348). By explicitly referring to the process, he reinforces the idea that there is a specific and systematic process to be undertaken in an investigation, not a random, ad hoc look at various clues. Investigation requires connecting the tyre skid marks found to the car that created them, and this accounts for the high number of material processes. JT also uses relational processes to help students make connections between the clues they have been given: *are you going to link it into something else that you're already doing* (clause 362): *yes we can try and link these two things together can't we* (clause 384). Once again, JT makes explicit the need to connect clues as part of the investigative process. As well, JT continues to 'concretize' stages in the investigative process with dual coded processes: *so you <u>narrow</u> it <u>down</u> to rich people* (clauses 365), *you <u>narrow</u> it to poorer people* (clause367).

Episode 4

In this Episode, JT elicits ideas from students about how the description clue will help in the investigation in this Episode. This is evident in: *anything else what are we up to (*clause 402-3)*; anybody with any other ideas about how we investigate any of those things* (clause 452); *OK any other inventive ideas'* (clause 482)*.* Some students are able to provide relevant links (clauses 429-436 in extract below) but they are not able to relate these ideas to solving the murder independently.

> *S2: check with missing persons to see if she*
> *T: here we go, yeah right*
> *S2: we already know the description*
> *T: what else*

S3: describe her put it over the wireless

(Clauses 429-36)

The students appear to require more support from the teacher and he acts contingently by foreshadowing the importance of forensic experts who were instrumental in solving the case: *so we're starting to look at using other experts for example/we're looking at forensic experts* (clauses 475-477).

Episode 5

The clue to solving the murder lies with identifying the victim. Up to this stage in the lesson the teacher has focussed the discussion around various clues to model ways of thinking about the way in which clues are useful in building up a picture of what occurred. Since the students appear to need more help to connect the role of forensic experts to the solving of the murder, in this Episode JT refers the students to the final clue in their worksheet. This clue relates to dental records and leads to a discussion of the fifth clue, which describes how the body was put on display in order to have someone come forward and provide a name that could be checked against dental records.

The use of processes that can be coded as material or mental are once more employed to make explicit the links between various clues. The clauses following could be coded as *mental* as the process involves mental activity, or *material* if the teacher uses *material* processes metaphorically to equate the investigation process with a journey. I have coded the following clauses as *material*, being used in a metaphorical way as a means of 'concretizing' the inquiry process for students.

545   *OK we better **take a step** backwards*
                    Pr:mat.

551   *let's **go back** to those*
                Pr:mat

556   *let's **go back** to these*
                 Pr:mat

558   *where **they've gone through** all this*
                    Pr:mat

In the following examples the processes have been coded as *relational* or *mental* rather than *material* because there is no physical action evident.

542   to **connect** it

   Pr:id

566   to **try and jog** people's memories
        Pr:mental

This particular use of processes that have a dual purpose is one strategy JT employs to create 'conceptual hooks' for his students about the process of inquiry.

   Episode 6

The final Episode connects the identity of the murder victim to a suspect and then links all the clues provided to that suspect. There is a very high proportion of *material* processes (75 of 189 clauses) which is consistent with the main focus of the Episode. Many of these processes, acting as *material-like* processes, are once again significant as they relate to the steps undertaken by detectives (and by analogy, historians) in the metaphoric journey of solving a crime or problem. Examples of this are: *try to establish* (clauses 699, 774, 818*); start constructing* (clauses 701, 817); *try to create* (clauses 724, 775, 780*); try and find* (clause 704*) and work it out* (clause 779).

Through the transitivity analysis in the two lessons of the Induction genre it has been possible to describe linguistically the way in which JT supports his students in developing conceptual understanding about the nature of History and historical methodology. In the next section the linguistic tool of lexical relations is used to also track how JT provides this support. The combination of transitivity and lexical relations provides a rich resource for analysing the experiential nature of the discourse.

Section 2: 'unpacking' History through lexical relations

Lexical relations analysis, described in Chapter 3, contributes significantly to an understanding of the way in which a teacher attempts to build understanding with students. It allows the researcher to identify the experiential meanings being realized in a text and then create "a link between the discourse domain of lexical relations (choices about which aspects of content get lexicalized in the text) and the experiential semantics (meanings about how reality is represented)" (Eggins 1994, p.105).

In tracking lexical strings it is possible to capture the rhythm or cadence of a lesson and identify what I have termed "busy clusters". This term reflects the clustering pattern of

specific words that predominate during class discussion in a particular stage of the lesson. Through examining the 'clusters' it is possible to see on what particular aspects the teacher is focussing the students' attention and the order in which different aspects are addressed. "Busy clusters" enable the researcher to view the flow of the lesson at a glance and thus track the way in which the teacher stages each part of the lesson.

As already stated, the sheer volume of material and the length of the strings that cover multiple pages present a challenge for researchers. To address this difficulty, I have developed a mapping page (discussed in detail in Chapter 3) that allows the researcher to capture the key clusters in a lesson at a glance and also the number of times they appear. Typically in a text, pronouns do not enter into lexical relations, but in my analysis the text has been lexically rendered (pronouns have been replaced with their lexical value) so as to present an accurate picture of how the words are clustered in each Episode. In the discussion following, the lexical strings that are analysed and that appear in the Appendices 7 and 8 are in **bold.** Also, the lessons are not discussed at clause level as in the transitivity discussion previously, but in semantically meaningful chunks of text referred to as sentences.

Building layers of meaning: What is History? lesson

Episodes 1 and 2

As already established, the overall goal of the lesson is for the teacher to explore with his students the concept of what History is and the process of historical methodology. The seven Episodes in the *What is History?* lesson contain lexical strings that demonstrate the prime focus of each Episode. There is a cyclic pattern to the overall lesson evident in the Episode summary (Appendix 7). Lexical strings that are being discussed appear as **bold** in the text.

The lesson beginning in Episodes 1 and 2, focuses on defining what History is by using the word *History* and key words (Tokens or Attributes in transitivity analysis) for History: *change, effects, past, people, cause*. In the next stage of the lesson, JT unpacks the elements of historical methodology through the analogy of a detective investigating the death of Diana, with words such as: *evidence, sources, eyewitnesses, facts.* JT then returns to the fundamental concept of History being about causality and how the past impacts on the future.

Table 4.7 illustrates the prominence of the lexical string **history** in Episodes 1 and 2. Through the repetition of **history** the teacher emphasizes the goal of this part of the lesson which is to determine what constitutes History. The lexical string **list of words** introduces the concept of different words being Tokens or Attributes for History with the relationship between **history** and **words** being one of expectancy.

The lexical chains **past, changes, effect, people** and **causes** are all introduced in Episode 1. Although they are separate strings, they have a referential relationship to the lexical string **history**. Also amongst the words themselves, **changes, effect, people** and **causes,** there appears to be an implied co-meronomic relationship as these words can all be seen as Attributes for History (in terms of transitivity analysis as established in the previous section).

Table 4.7: Lexical relations in Episode 1 and 2

Key: rep = repetition; lr = lexically rendered; co-mer = co-merenomy

EPISODE 1 TURNS 1 to 9

```
1   history
2       rep
3
4   history        expectancy
5       rep        list of
                   words
6   history  expectancy  series of         past        referential  reln'ship
        rep              events  rep  rep
7   history  expectancy  series of   past
                         events
8                           rep   changes
9       rep              events  changes  effect   people   causes
                                 rep
                         lr      lr  lr   lr   lr      lr
10              words    events  past  changes  effect  people
11          rep                  rep   rep      rep     rep
12          expect       co-mer  co-mer  co-mer  co-mer  co-mer
13  history — words —            past — changes — effect — people
                         lr      lr   lr   lr   lr
14      rep              events  past  changes  effect  people
15                       expectancy   rep
16  history ———  lr   lr  lr   lr    lr   lr              historians
        rep  rep
17  history              events  past  changes  effect  people
18                       lr   lr   lr   lr    lr
19  history  words  events  past  changes  effect  people      definition
        rep  rep              lr   lr   lr   lr                 rep
20  history  words  events  past  changes  effect  people
        rep
21  history
22      rep
23  EPISODE 2 TURNS 9 to 30                                    definition
24  history              past   change   affected  people   caused
25          rep                                              present
26          rep          rep            rep      rep      rep
27                                                    rep       rep
28
29  history              past   change   affected  people   caused   present
```

During the lesson, JT writes on the board while speaking, listing the significant words in the lexical string **changes, effect, people** and **causes**, and thus affirming the students' responses. The significant information is therefore presented in both spoken and written form. Each string is then discussed via the student definitions of *What is History?* Repetition is the main relationship for each of the key words with the teacher referring to these words in relation to the students' written definitions.

> *Student 1:* **History** *is about people who have affected the past and cause a*
> *change in the present.*

> *Student 2: Changes in people effect times// which causes **History**//*
>
> *Student 3: **History** is about the past people [[who have changed/and*
>
> > *affected our lives]]//*

The word **effect**, introduced in Episode 1 is unpacked as **affected** in Episode 2 because the students use the congruent form in their definitions. Also of note is the fact that the words **history, past, changes** and **effect** do not appear again until Episode 7 as the teacher suspends this aspect of exploring what History is and then proceeds to introduce students to what constitutes historical study.

A new lexical string **present** is introduced in Episode 2 through the student's definition but it is not explored by the teacher until the end of the final Episode when a student responds to the question *what's the point of looking at the past* with *to see how it's changed the present.* The teacher uses this response to reinforce the idea that *historians always relate things to the impact on the present.*

Episodes 3 and 4

Episode 3 is very brief and has only one lexical string, the word **historian** which first appears in Episode 1 with *try to explain what we do as historians*. It is mentioned briefly in Episode 2 but then becomes a key lexical string in Episode 3 with the teacher's question *well what's the first thing historians do*. The students do not understand the line of reasoning of the teacher and he abandons this question and provides the answer to the question himself at the beginning of Episode 4: *I think our historian would start off with just choosing an event (sentence 85); ....so an historian doesn't he get his evidence from a whole variety of sources (sentence 108).* JT finally brings together the detective role with the role of an historian. He has connected the familiar (detective role) with the new (historian role), thereby making explicit for his students the analogous relationship between the two.

> *eyewitnesses so we're starting to just using the detective analogy/ we're*
> *starting to construct whole series of words that describe what historians*
> *are doing/ and that was our other task wasn't it /to describe what*
> *historians do/so in order to investigate an event **the detective or the***
> ***historian** works out what took place/ he gathers information from a whole*

series of sources/ tries to gather facts and evidence /so he seeks witnesses/

in the case of Diana's death it would be eyewitnesses

At the beginning of Episode 4 the **event** lexical string is introduced. This is critical in the apprenticing of the students into seeing History as event-focussed, which in turn requires students to investigate these events – the basis of historical inquiry. This string continues throughout Episodes 4, 5 and 6 which focus on *what, how* and *why* of historical inquiry.

A number of new strings are added during Episode 4 that investigate what took place and the sources of information for historical inquiry. The detective analogy, a familiar concept, is introduced to support students' understanding of the role of the historian in an historical inquiry.

The **detective** and **investigation** strings are brief strings that have an expectancy relationship to each other. The **investigation** string also has an expectancy relationship to the **events** string discussed above. These lexical relationships make a clear connection among the participants, that is, an event is connected to the person who conducts the process of investigation.

New strings **information, evidence, sources, eyewitnesses, records** and **educated guesses** are all part of this Episode in complex interrelationships which form "busy clusters" that establish the notion of sources used in an investigation. This is visually demonstrated in the lexical string section in Table 4.8: lexical relations in Episode 4.

Thus the lexical strings in Episode 4 capture clearly the way in which the teacher is explicitly connecting the various elements in an investigation to achieve a successful outcome and in so doing guides the development of students' understanding of the historical process.

Table 4.8: Lexical relations in Episode 4

Key: exp = expectancy; lr = lexically rendered; co-mer = co-merenomy; hyp = hyponomy; co-hyp = co-hyponomy

exp
exp

investigation — detective

exp

investigate

investigate

detective

lr

detective

lr

detective

Princess
Di Death

exp

detective

information

co-mer   sources

information

information

information

lr

information

co-hyp

facts

facts

co-hyp

detectives

information

evidence

co-hyp

evidence

sources

Diana's
Death

co-hyp

detective

sources

exp

eyewitnesses

lr

detective   analogy

eyewitnesses

lr

detective

co-hyp   co-hyp

detective

hyp   hyp

lr

investigate   detective

evidence   information   sources   facts

lr

detective   antoym

lr   witnesses

detective   Diana's
Death

detective   eyewitnesses

The teacher also supports his students' conceptual understanding about what is required in an investigation by co-constructing this knowledge with them through the discourse. In Text 4.5, it is possible to demonstrate the development, mostly through repetition, of the different elements that relate to the sources used for gaining information as part of an investigation. JT introduces the string **information** in turn 42 *we've got a reasonable idea/ the poor old detectives have a difficult time getting all the **information**/ sometimes historians have the same sorts of difficulty* which one student uses in his response to the

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teacher's question *what do we have to rely on/ what's the source of/ what are we looking for*. The other strings, **facts, evidence, eyewitnesses** and **educated guesses** are all introduced by students in response to his questions. All these strings relate to the idea that in investigating an event, an historian or detective is required to collect information from a number of sources.

> *so in order to investigate an event the detective or the historian works out*
> *what took place/ he gathers information from a whole series of sources/*
> *tries to gather facts and evidence /so he seeks.…*

Text 4. 5

Teacher	Students
we've got a reasonable idea/ the poor old detectives have a difficult time getting all the information/ sometimes historians have the same sorts of difficulty/ *what do we have to rely on/ what the source of what are we looking for*	
	information
information about the event/ *what else / what is another word that could be used to describe information*	
	dates
well as far as the detective	
	facts
information/facts/ we're looking for the facts/ *what do detectives call this*	
	evidence
evidence/ so a historian doesn't he get his evidence from a whole variety of sources doesn't he/ *what sort of sources does a detective use/ a detective is investigating Diana's death/ what 's the sort of sources he uses*	

	eyewitnesses
eyewitnesses/ so we're starting to just/ using the detective analogy/ we're starting to construct whole series of words that describe what historians are doing/ and that was our other task wasn't it /to describe what historians do/ *so in order to investigate an event the detective or the historian works out what took place/ he gathers information from a whole series of sources/ tries to gather facts and evidence /so he seeks witnesses/ in the case of Diana's death it would be eyewitnesses/* *what other information do they then start to gather*	
	um they like/ try to work it out/ they could have like educated guesses
educated guesses/ *how do they make educated guesses/* *what sort other than witnesses what do they start to do*	

The lexical string Diana's death, in this Episode, has an expectancy relationship to the events string and runs throughout Episodes 4, 5 and 6 as the common thread that connects the detective analogy with the methodology for historical inquiry.

Episodes 5 and 6

The focus of Episode 5 is *how*. No new lexical strings appear in this section and the strings for **information, evidence, and eyewitnesses** end in this Episode. Episode 6 has a *why* focus. Again there are no new strings and the **event** and **Diana' death** strings end at this point.

Episode 7

This final Episode is a recapping of the overall goal of the lesson, establishing the concept of what History is and the process of historical inquiry. As previously mentioned, the strings relating to **history, historians** and the key words that relate to the study of History, **past, change, effects** and **present** re-appear in this final Episode. This return to the initial key words demonstrates the way in which JT has in effect taken the students with him on a metaphorical journey and completed a full circle with the content of Episodes 1and 2 being revisited in Episode7. The cyclic nature of the lesson is clearly evident through the lexical strings and demonstrates the teacher's strategy of first introducing all the key words, then building each concept with the students step by step, until he finally brings them all together at the end.

Table 4.9: Lexical relations in Episode 7

key: rep = repetition; lr = lexically rendered;

	EPISODE 7	TURNS	100 - 104		RATIONALE			
195	EPISODE	7 TURNS	100 - 104		RATIONALE			
196								
197			past					
198				change		rep		
199			past					
			lr					
200			past	changed				present
			lr					
201			past	changed				present
202				changes	affects			
203			lr				historians	present
204	history							
205	history							
206	history	word	past					
207	history							
208	history							
209			past					
210								

Reinforcing the layers: The pyjama girl mystery lesson

The purpose of this lesson is to reinforce the learnings from the previous lesson about the process of historical inquiry. Using lexical strings analysis it can be seen that the teacher again systematically deals with the clues to solve the mystery. He attempts to establish the importance of the *identity* as the key. Once the identity of the victim is established the police then have a suspect, the husband. The teacher reveals, through this murder mystery, the importance of evidence in an inquiry. Witnesses enables the body to be identified and experts are able to confirm the identity. Appendix 8 provides a summary map of all the lexical strings in this lesson.

Episode 1

The focus of the discussion in this Episode is on finding the woman's identity and the clues that will assist in this goal. The significant strings are: **identity** and **body** which relate to the main purpose of this string; **pyjamas, bag** and **towel** which are drawn from

information provided in the first clue. The words **mass produced, outlets/locations, and brand name** are all part of the discussion about the pyjamas and speculation about how the pyjama clues would help identify the body. **Initials** on the towel have a meronomic relationship to **towel** and this lexical string does not reappear until Episode 6 when the teacher tries to help the students make the links with the clues that connect the husband as a suspect.

The major lexical relation used is repetition, with collocation between **murdered** and **mutilated**, a meronic relationship between **pyjamas** and **pyjama top** and a synonymous relationship between **outlets** and **locations** and **hotel** and **motel. Mass produced** draws on both antonymous and synonymous relations **- common, handmade** and **exotic, mass-produced** in the discussion. **Experts** is introduced and developed into **forensic experts** through an expectancy relationship. **Dentists** is introduced as a string but not picked up for discussion by the teacher until Episode 5 where the final clue is discussed.

The **people** string is repeated, referred to as **someone** and developed into **eyewitness** a more technical term, and then repeated as **witness** and finally the less technical term **people.** This relationship is predominately synonymous.

Episode 2

In this Episode the **body** string about where the body was found is predominate. The teacher directs the students to the second clue about the location of the body by drawing their attention to the **people** string and trying to establish the need for an investigator to interview people who may have information. He then guides the students from **neighbours,** which is in a synonymous relationship with **people running the service station**. The **petrol station** string has just been established and an expectancy relationship exists between **people running** and **petrol station.**

Episode 3

The focus of this Episode is the identity of the car and the skid marks. This still relates to the second clue of location. The main strings in this Episode are **car, skid marks** and **direction**. The teacher tries to establish the relationship between the car possibly identified through the skid marks and anyone who might have noticed strangers in the town. Table 4.10 illustrates a "busy cluster" around the car as a clue.

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Table 4.10: Lexical relations in Episode 3

Key: rep = repetition; mer = meronomy; co-mer = co-meronomy; lr = lexically rendered

car —————— skid marks co-mer
mer depth of
track co-mer
|
old
rep mer lr
skid marks
tyre
car
rep rep
car tyre rep
|
ant tyre

good car

bad car

car

lr

car

lr

car

lr

car

rep

car
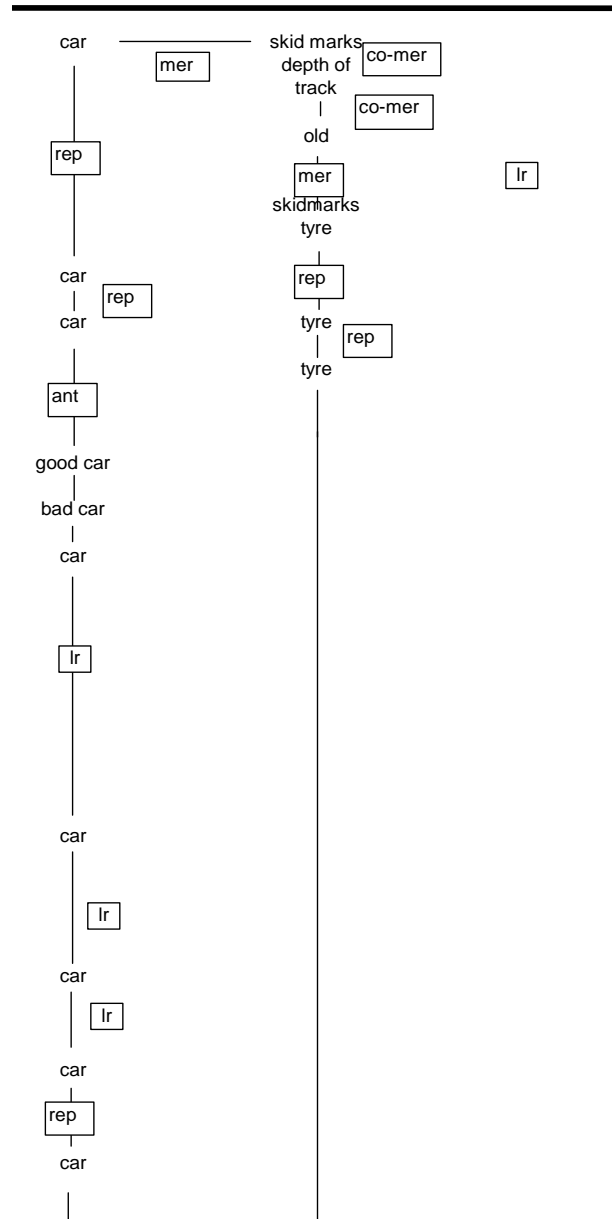
Episode 4

JT now guides the students to discuss in more detail the information from clue one about the bag and towel and clue number 3 about the victim's physical description. There are two main strings in this Episode. The **bag** string focuses on what type of bag

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was found over her head. The other string is **identity,** established in Episode 1 and continued in Episode 2. The relationship between these words is synonymous as they are both ways of talking about the identity of the body.

Episode 5

The final clue is introduced in this Episode**. Dentists** is linked in an expectancy relationship to **forensic experts** in Episode 4. The **identity** string continues with the victim's name being established as **Linda Agostini.** The relationship between **identity, pyjama girl, name** and **Linda Agostini** is a synonymous one. The **body** string is repeated several times as the discussion revolves around the fourth clue of placing the body on public display in the hope that someone would identify her. The **husband** string is now introduced in this Episode and is a key string for the final Episode. The role of **police** as actors is noted in the high number of times the word *police* is used.

Episode 6

In this final Episode the **identity** string, established in Episode1, is now connected to the husband who is the main suspect. This is evident in the shift from the use of the name **Linda Agostini** to **wife,** which is then repeated several times in the rest of the Episode. The **murder** string is again revisited and linked in a synonymous relationship to **Linda's death**. The **husband** string, introduced as the line of reasoning that establishes the husband as the murderer, is developed. The **August** string is also introduced as this string attempts to establish the whereabouts of Mr. Agostini at the time of his wife's death. The link between the **people** string, captured in the lexis **neighbours** and **eyewitness accounts** is also made to try and establish the relationship between the couple. A brief **confession** string appears here as once the police established the victim's identity through the dental records, the police arrested Mr. Agostini and he confessed. This is illustrated in Table 4.11.

Table 4.11: Lexical relations in Episode 6(a)

Key: rep = repetition; syn = synonomy; exp = expectancy; lr = lexically rendered
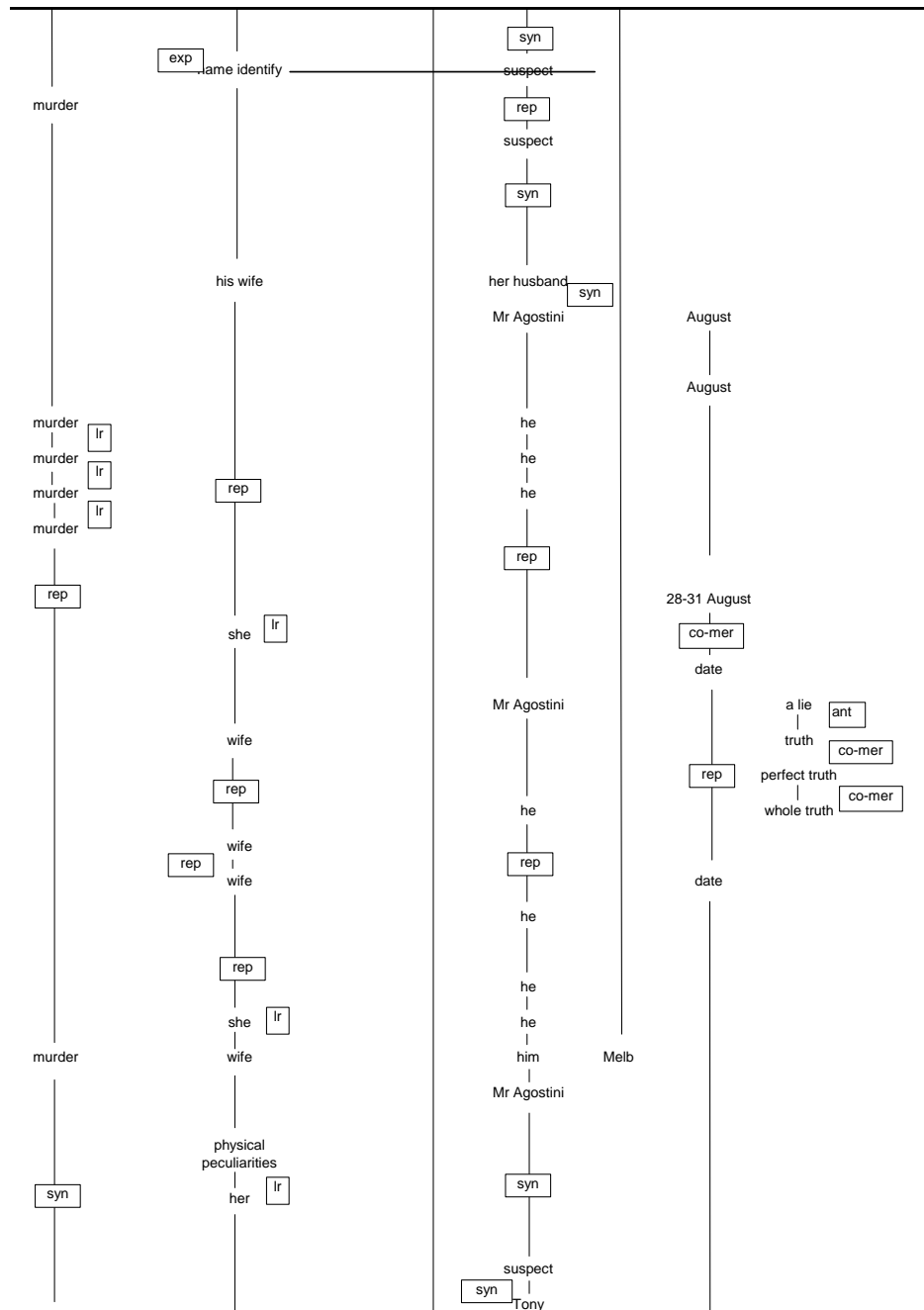
The teacher recaps the evidence drawing on all the clue strings **- car, people, skid marks, towel, initials,** and **pyjamas** together as shown in Table 4.12.

Table 4.12: Lexical relations in Episode 6(b)

Key: rep = repetition; lr = lexically rendered
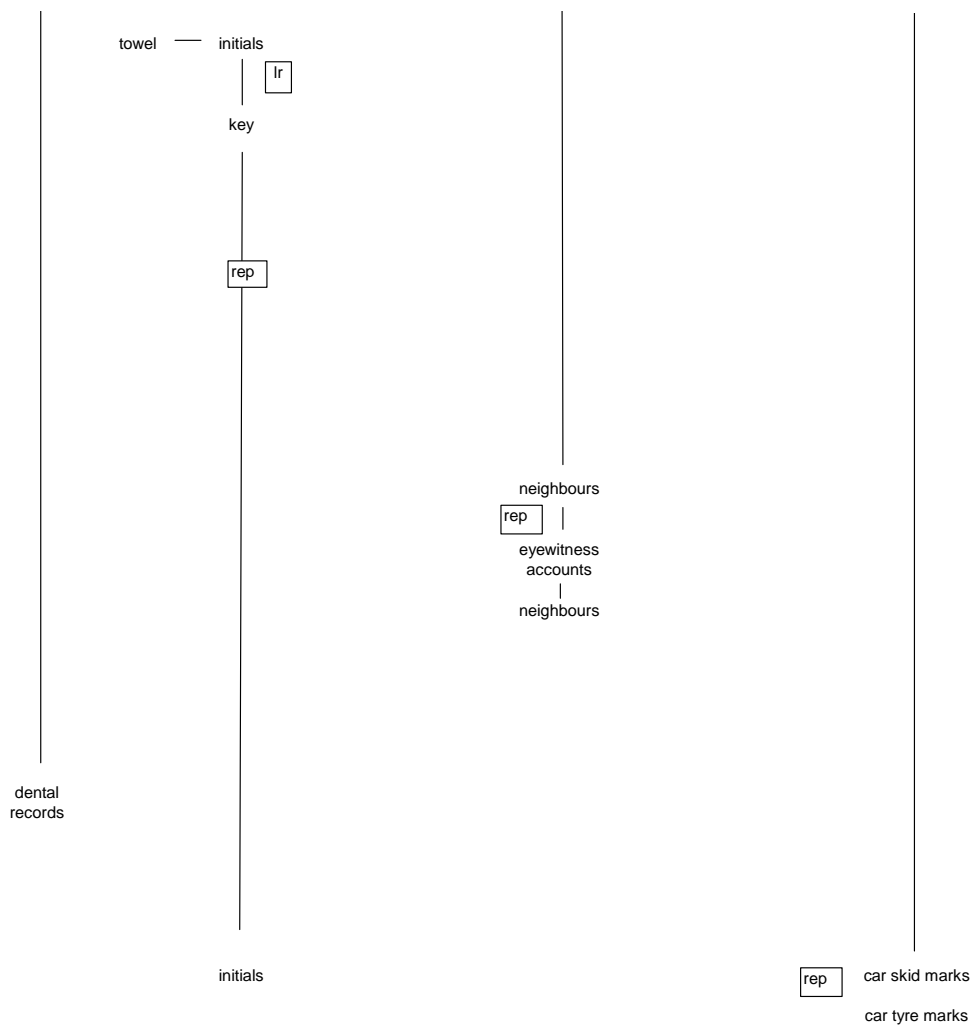
Thus through analysing the lexical relations in each of the Episodes of the two induction lessons, it can once again be revealed how the teacher carefully crafts the lesson to guide his students' conceptual understanding of what the study of History is about. Through guided discussion in each Episode of the lessons, JT draws explicit lexical links between key elements, thereby creating conceptual hooks for his students as he performs a type of 'semiotically unravelling' of the abstract notions of what the study of History is and the process of historical methodology.

Section 3: increasing prospectiveness through questioning

As well as dealing with the lexical relations in the Induction genre lessons to describe the texture of spoken text, additional cohesive patterns of conversational structure have been analysed. These demonstrate the way in which the teacher, through various questioning techniques in the dialogue, supports the students as they co-construct information along a particular line of reasoning and thereby enables them to transform their understanding about the nature of History and historical methodology.

As stated in Chapter 3, the two introductory lessons *What is History?* and *The pyjama girl mystery* have been divided into Episodes. Each Episode is marked as a distinct stage in the development of the content. Each Episode is further divided into sequences. A sequence is a series of exchanges that develop single **content** ideas within an Episode. Within each sequence the move type (IRF), who is the Initiator (Teacher or student) the Prospectiveness (DGA) and function of the question is coded. The IRF pattern has been discussed in detail in Chapter 3: questioning. Initiator refers to the person who initiates the exchange (either teacher or students) and Prospectiveness, used to code sequences of exchanges, is also discussed in detail in Chapter 3: increasing prospectiveness through questioning. In summary, prospectiveness, consisting of Demand, Give and Acknowledge moves recognizes that in a typical IRF exchange, moves decrease in prospectiveness. The final category function as used by Wells' (1995; 1999) is an elaboration of Martin's Speech Function coding. Detailed discussion of both Martin's coding and Wells' adaptation occurs in Chapter 3: Part 4: increasing prospectiveness through questioning.

Creating conceptual hooks through "metacomments": What is History? lesson

A significant pedagogic technique identified in this research is that of creating conceptual hooks for students through metacomments. A metacomment is a summary of the key ideas presented in a section that is then related to generalized principles of historical inquiry.

One technique employed to 'push' a student to elaborate his ideas is evident in the way in which the teacher, in the Move column of a **Feedback** move, immediately follows with an **Initiating** move. These are marked as **F/I**. So, when the teacher changes the expected **Acknowledge** response to a **Demand,** this increases the prospectiveness and

thereby extends the exchange so that the topic is explored further. An example of this is shown in the Text 4.6. The complete section from which this excerpt is taken appears in Appendix 9.

Text 4.6

Line No.	Episode 4: sequence 1	M	I n t.	Prosp.	Function
145	we've got a reasonable idea/ the poor old detectives have a	F/		A	Reject
146	difficult time getting all the information/ sometimes historians				
147	have the same sorts of difficulty what do we have to rely on/	I		D	Req.info
148	what's the source of/ what are we looking for				

As well, many of the **Feedback** moves include an extension to the move by the teacher after the teacher **Acknowledges** the student response. These typically take the form of an **extend** or **reformulate** function. This enables the teacher to scaffold the students' understanding through the dialogic exchange and thus establish critical concepts. The transcript from the *What is History?* lesson provides evidence of the teacher using these functions to create conceptual hooks for the students. For example, in Episode 2, sequence 5, there are three instances of the **Feedback** move in the exchange performing this purpose. These are bolded and underlined in the Text 4.7

line 100	– start looking at record books
line 105/6	– we are in actual fact describing people
line 109	– how change has affected us

Each of these lines has an extension or reformulation function that leads to a metacomment which creates a conceptual hook for What is the study of History?:

History is about the study of change and what causes it /how it has affected people's lives etc etc/something like that/ cause that's what historians are looking at/ changes/ what caused it.

In Text 4.7 and Appendices 10 and 11, abbreviations for each column are:

Column 3:   M = Move Type in IRF

Column 4:   Int.= Initiator – Teacher (T) or Student (S)

Column 5:   Prosp. = Propsectiveness – Demand/Give/Acknowledge

Column 6:   Function = Function

Other abbreviations in the Function column are:

Req. info.= request information

Give info. = give information

Neg. = negative

Reform. = reformulate

Ack. = acknowledge

Req. justif. = request justification

Text 4.7

Line No.	Episode 2: sequence 5	M	Int.	Prosp.	Function
98	if we study change we automatically have to do what/	I	T	D	Req info
99	S: record	R		G	Give info
100 101 102 103	yeah we've **got to start looking at record books of the past**/ we've got to start looking at what else/ if we study change you've got to look at the past to be able to describe what changes have occurred/ what else have we got to do/	F I		A D	Accept/ **extend** Req.inf
104	S: look at people/ how people have changed/	R		G	Give info
105 106	yeah so in describing **change we are in actual fact describing people/**	F		A	accept/ **Extend**
107	what do we do when we look at change	I		D	Req info
108	S: in what way it's affected us	R		G	Give info
109	yeah right /in actual fact **how that change has affected us**	F		A	Accept/ **extend**
110	S: the causes	R		G	Give info
111 112 113 114 115	**yeah/ what causes the change/ that's why I like that word as the strongest word to describe it/ history is about the study of change and what causes it /how it has affected people's lives etc etc/something like that/ cause that's what historians are looking at/ changes/ what caused it**	F		A	Accept/ **justify** **Meta- comment**

In Episode 4, sequence 1, introduced in Text 4.6, there are three instances of the
Feedback move in the exchange being used to extend an idea.

line 141   what took place

lines 158/9   evidence from a whole variety of sources

line 164   construct a whole series of words

Each of these lines of text includes an extension or reformulation function that leads to a
metacomment that creates a conceptual hook about historical methodology: *so in order
to investigate an event the detective or historian works out what took place/ he gathers*

information from a whole series of sources/ tries to gather facts and evidence/ so he seeks witnesses/ in the case of Diana's death it would be eyewitnesses.

The conceptual hook on historical methodology is established by the end of sequence 1, (Appendix 10) however this whole Episode (Episode 4) acts as a springboard to reinforce the idea of sources providing evidence which occurs in the sequences that follow. In other words, sequences 2 and 3 continue to use the detective analogy relating first to sources then the uses of evidence.

In sequence 4 in the same Episode, the pattern of repeating and extending continues with the teacher creating a further conceptual hook about sources an historian uses whilst engaged in historical inquiry. There is also a request to justify a response in line 202/3. In this sequence, the shift has been made from the **detective** in the previous sequences to the **historian** as participant: *newspaper, magazine, photographs, film/ since the invention of the camera we've got a whole series of events that have been recorded visually for us /there's a whole series of visual eyewitness oral accounts/ unending unending/literally unending number of sources and types of sources a historian could could possibly use/ depending on events that is analysed.*

Finally a rationale for studying History concludes the first lesson (Appendix 11). In lines 313-328, the teacher establishes a metacomment which provides a final conceptual hook with a rationale for studying History. The concept of causality, a key one in the study of History, is thus established: *OK /so historians always relate things to the impact on the present/ if I was trying to explain who I was as a person I would have to explain my history/ if I wanted to understand who I am as a person I've got to understand my history /and this is why history is so important and why this word here is so important/ if I want to understand my country I've got to understand its history/ if I want to understand the world and the way it is and all the troubles and strifes and good things about the world /I've got to understand its history/ if I can't understand modern politics unless I understand the politics of the past/ same thing/ so it is absolutely essential if I want to understand our world/ the world we live in now and the future and ourselves to understand the history of it/ unavoidable unfortunately gentlemen/ unavoidable.*

Thus, JT marks what is significant by recapping for the students the essential learnings about why it is important to study History. Recapping, a technique for building the

future from the past "is a brief review of things that happened earlier in the previous joint experience of the class" (Mercer 2000, p.52) Through this strategy, JT has explicitly named all the reasons why the study of History is important.

A summary of the conceptual hooks created by the teacher through his questioning are:

- What is the study of history

- Historical methodology

- Sources in historical inquiry

- Rationale for studying history – establishing causality

Consolidating conceptual hooks through "metacomments": The pyjama girl mystery lesson

In this lesson the teacher again uses the same approach of increasing the prospectiveness of a move by asking a further question, pushing his students to elaborate on their ideas and thus begin to clarify their thinking. For example:

lines 106-114   *that's right but what maybe/ but what does that indicate/ if it was stolen from the motel*

        S: *she might be a poor person*

        T: ***so***

lines 187-190 *S1:* *yes but if it was hand made then we could go to the makers of it*

        T: *yes **so***

        S2   *but her boyfriend could have bought it/ anyone could have bought it*

        T: ***yeah** (Raised inflection suggests further elaboration required)*

lines 224-228 *T:* *well yeah/ the possibility of/ we've at least reduced it to the possibility of two states maybe/ haven't we*

        S1: *no not really*

        T: ***what** (Raised intonation suggesting further elaboration required)*

lines 547-539 *S1:* *will they do that these days*

        T: *no/ **what do they do these days***

        S2:   *DNA test*

lines 824-829   T: *well that makes the job easier/* **but what was the thing that changed /but what was the thing that changed the whole process of solving this crime**

               S: *the dentist*

               T: *OK* **but go further**

An example of the way in which JT extends, reformulates and clarifies in order to create a conceptual hook in lesson 2 is seen in Text 4.8. Here the student challenges the teacher's evaluation of his response (line 148-9) by justifying his reasoning: *yeah but if we find the right town her mother might live there and we could show her her body.* Another student agrees with the previous student (line 150) but JT chooses to move on to reformulate the point he is trying to make, that is, the need for a witness.

Text 4.8

Line No.	Episode 1 : sequence 1	M	Int.	Prosp.	Function
141 142 143 144	we're looking for s-s-something we're looking for ultimately her identity**/ we're trying to reveal her identity** / the pyjamas alone aren't going to reveal her identity/ where she got them from/ are we looking for	F	T	A	Confirm/ **extend**
145	S:where she lives/ what town	R		G	Give info
146 147	yer ultimately but that's not necessarily going to tell us who she is	**F**		A	Accept/ **evaluate**
148 149	S: yeah but if we find the right town her mother might live there and we could show her her body	R		G	Challenge/ justify
150	S: yeah	F		A	Accept
151 152 153	someone who knows her / we're trying to **identify a witness** aren't we/ her identity/ yeah it could be her mother/ the pyjamas are not necessarily going to lead us to her mother	I		D	**Reform.**
154	S: no but the body	R		G	Challenge
155 156 157 158 159	**we're looking for somebody/ an eyewitness that can say that yes this girl could/ that fits this description on such and such a date/and if you've got a sales docket/they might be able to supply a name/ so we are looking for these witnesses/ alright**	**F**		A	**Clarify** **Meta-comment**

Further conceptual hooks are established through metacomments that emphasize:

- The importance of checking relevance of clues

- The use of experts to help solve the mystery

- The need for hard evidence in an investigation

- How the clues could be used to connect the suspect to the murder.

In the final exchanges of this lesson (Text 4.9), the teacher takes the opportunity to revise the essential aspects of the investigation, which is identifying the victim. He does this through increasing the prospectiveness of the moves through questions that require his students to provide further information. In this way JT can evaluate how much the students have understood about the investigative process they engaged in and also recap the main points.

Text 4.9

Line No.	Episode 6: sequence 4	M	Init.	Prosp.	Function
819 820 821 822	face me / what was the most important part of the process as far as the police were concerned/ what was the thing that gave them the major break through	I	T	D	Req info
823	S: the confession	R		G	Give info
824 825 826	well that makes the job easier/ but what was the thing that changed /but what was the thing that changed the whole process of solving this crime	F/I		A/D	**Evaluate/** req. info
827	S: the dentist	R		G	Give info
828	OK but go further	F/I		A/D	Accept/ **justif.**
829	S: they didn't get it	R		G	Clarify
830 831 832 833 834 835 836	you're on the right track though/ **as soon as they identified the victim it exposed immediately the husband/ he was that he was a suspect they could then start obviously to construct more clues around that person and test whether it's you know this being the** >>>>end of tape	F		A	**Extend**

The conceptual hooks in lesson 2 created by metacomments provide the students with a summary of all the key components required in an investigation. These are established as follows:

- ***The need for eyewitnesses***

    we're looking for somebody/ an eyewitness that can say that yes this girl could/ that fits this description on such and such a date/and if you've got a sales docket/ they might be able to supply a name/ so we are looking for these witnesses/ alright

- ***Using experts to help solve the mystery***

    so we're, we're starting to look at using other experiments for example um um /we're looking at forensic experts, maybe using people who um um/ for example

with the pyjamas we could go to the retail outlet or people who or buyers or
anyone like that who can tell us about those sort of things

- ***Need for evidence in an investigation***
  they've got to find the hard evidence to prove that he did it

- ***Linking all the clues***
  you can see that we have begun to build a very convincing argument around the
  identity of the murderer /depending of course on the information that you would
  have got from neighbours/ motives/ if in actual fact/ if this initial here matched
  that initial there/ car skid marks and tyre marks were identifiable as his/ well that
  somehow these green pyjamas/ green and cream pyjamas with the motifs could be
  linked to the couple as well

Cued elicitation

In addition to increasing the prospectiveness of the exchanges to establish conceptual
hooks, JT also uses the strategy of cued elicitation. The purpose of cued elicitation is for
the teacher to leave a space for the student to complete a word. In the case below (lines
657-660) the teacher cues the students to respond by pausing so they complete the
exchange with *he didn't do it.* This technique ensures the students follow the line of
reasoning and also allows them to co-construct the sentence, which is an important
process in developing understanding.

lines 657-60   *oh so who / August 31st /so he in actual fact was he thinking*
                      /was he hoping… the police he didn't do it

The use of cued elicitation as a means of ensuring the students are following the
teacher's line of reasoning is again used by the teacher near the end of the lesson in
Episode 6: sequence 3. Here, the co-construction of the exchange with the word
investigate confirms this for the teacher.

lines 702-706   T: *one of the first things that we've got to*
                S: *investigate*
                T: *try to to create the link between these two events*

Student as initiator

In this lesson, the students take on the role of initiator much more than in the previous lesson. Although all interactions are still via the teacher, he maintains control of the dialogic content. This is evidence of the comfortable relationship JT's students have with him in that they are confident their attempts to initiate will be respectfully accepted, although the content may not be accepted. The interpersonal dimension, where mutual respect between teacher and students is exhibited, is a strong element of this classroom. This willingness to take risks is an important aspect of the affective domain and has an impact on student learning.

An example of student as initiator occurs in Episode 2: sequence 1, where a student demonstrates engagement with the teacher's method of questioning. In this exchange, JT attempts to extend the student's thinking by increasing the prospectiveness of the move (line 189). A second student challenges the first student's comment, which the teacher acknowledges, before student one clarifies his idea. In the feedback move that follows, JT takes the opportunity to elaborate the point that a detective's job would be almost impossible if the pyjamas were mass-produced. In this brief exchange it can be seen how the demand and feedback moves are used to guide students to a joint understanding. Also, the student's confidence to initiate and challenge suggests control over the content and could be regarded as evidence of the beginning of 'handover' (discussed in Chapter 2) in the scaffolding process.

lines 187-202   *S1:*   *yes but if it was hand made then we could go to the makers of it*
    T: *yes so*
    S2:   *but her boyfriend could have bought it/ anyone could have bought it*
    T: *yeah*
    S1:   *it's exotic*
    T: *so it tells us it was exotic/ means usually bought in from overseas/ something not from within Australia/ that's if you use the language correctly and we're assuming that they've used the language correctly/ so it's not you know/ that would imply that it's not massed produced/ but if it was mass produced it would make a detective's job nearly impossible*

Section 4: developing understanding and creating technical language through paralleling and recontextualizing strategies

Further examples of the discourse strategies used to develop technical language are described in this section. Also demonstrated in the *What is History?* lesson is the way in which an analogy that links (or parallels) the detective's and the historian's investigative processes is used to guide students' understanding. The teacher's use of analogy has similar features to Lemke's (1985) notion of paralleling which is the setting up of contrasts or oppositions between pairs of terms, a very important thematic development strategy in classroom talk. However JT does not use paralleling in exactly the same way as Lemke describes. He uses this term at the level of discourse rather than word level, but the analogy does create a framework for the students to understand the process of historical inquiry. The parallel relationship established between Diana and the detective as a means of exemplifying the process of historical inquiry can be tracked in the lesson.

Paralleling

The first stage in historical investigation is determining the event. JT begins by asking general questions to establish this but it becomes quickly evident that the students are being too general in their responses and the teacher needs to guide the students' thinking: *you'll still have to be a little bit more specific/ more centred/ more focussed.*

In the exchanges that follow, the teacher appropriates the student response to the question

> *T: what would be the first thing you would do…….*

> *S: things that affect the whole world like*

and recasts it as *event*. He writes **events** on the board and now begins the process of demonstrating how an historical inquiry is conducted, starting with *what took place* and how the detective uses sources to determine this. At this point the Diana analogy is introduced. This draws on students' background knowledge and thus sets up a parallel between what the detective in the Diana case needed to do and what an historian does: *the poor old detectives have a difficult time getting all the information/ sometimes historians have the same sorts of difficulty.* By the end of the lesson the teacher has

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introduced the key elements of historical inquiry – *what took place, how it occurred* and *why it occurred.* This critical link is made by using the detective analogy and immediately establishing the parallel nature of historical inquiry through the use of the interpersonal adjunct *now.*

> *yes a popular explanation is it was the hounding of the paparazzi/ who constantly dogged Diana where she was /and people explain the event why it occurred because of the sequence of events /****what and how placed into a course of action*** *because of that overdegree of interest in her movements/* ***and so people explain the events/ now*** *that's what historians do as well/ so we can write those things down can't we*

Text 4.10 (turns 40-52) illustrates the teacher's strategy of paralleling in the *what took place* sequence. It contains predominately inquiry type questions that construct for the students, through appropriation of their responses, a series of logical steps to understand how a detective investigates an event. Figure 4.3 provides a visual illustration of the *what took place* section of board.

Text 4:10

Turns	Teacher	Student	Board
40	... if you took for example if we use the example of Princess Diana's death/ do we know really what happened		writes **what took place** and connects to **events** with an arrow.
41		no	
42	we've got a reasonable idea/ the poor old detectives have a difficult time getting all the information/ sometimes historians have the same sorts of difficulty/ what do we have to rely on/ what the source of /what are we looking for		
43		information	writes **information** uses arrow to link **information to events** on line above
44	information about the event/ what else / what is another word that could be used to describe information		
45		(dates??)	
46	well as far as the detective		
47		facts	writes **facts** underneath and to the right of **information**

48	information/ facts/ we're looking for the facts/ what do detectives call this		
49		evidence	
50	evidence/ so a historian doesn't he get his evidence from a whole variety of sources doesn't he/ what sort of sources does a detective use/ a detective is investigating Diana's death/ what 's the sort of sources he uses		writes **sources** draws a line from **information** above writes **evidence** and draws a double headed arrow between **sources** and **evidence**
51		eyewitnesses	writes **witness's**
52	so we're starting to just/ using the detective analogy/ we're starting to construct whole series of words that describe what historians are doing/ and that was our other task wasn't it /to describe what historians do/so in order to investigate an event the detective or the historian works out what took place/ he gathers information from a whole series of sources/ tries to gather facts and evidence /so he seeks witnesses/ in the case of Diana's death it would be eyewitnesses/what other information do they then start to gather		

Figure 4.3: **What took place** *section written on board*
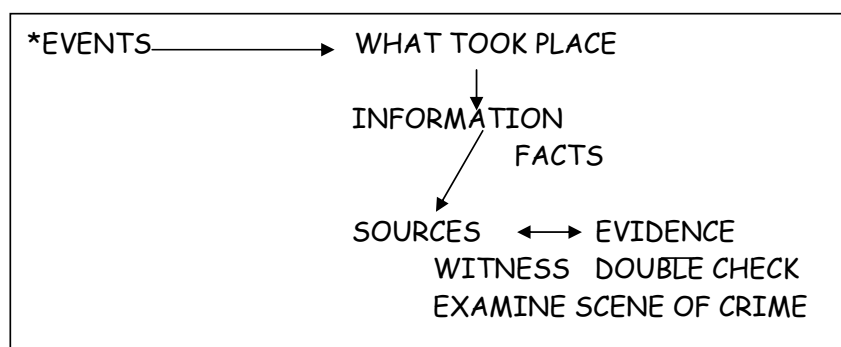
JT encourages the students through inductive questioning to build upon each other's

responses of *information* and *facts* to suggest a more technically appropriate word,

evidence, as a source of establishing what took place. Up to this point in the excerpt the

focus has been on the detective as a participant. The teacher now makes an explicit link

between the detective and the historian as participant through the causal conjunction *so*

(turn 50) and then immediately returns in the same section to the detective analogy. It

appears this move is almost a quick 'checking in' to make sure the students are following the parallel development of the detective and the historian analogy. It acts as an 'are you still with me' check and makes explicit the teacher's thinking as he builds information about what historians investigate. The teacher also marks what is significant in the content. This 'checking in' is repeated in turn 52, where detective and historian again appear as parallel participants in establishing the need for both detectives and historians to*: work out what took place/ he gathers information from a whole series of sources/ tries to gather facts and evidence/ so he seeks witnesses.*

Creating technical language through recontextualizing

As stated earlier in Part 1, recontextualizing is a discourse strategy used to compose more register appropriate language. This sub-section further illustrates the discourse strategies of repetition, recasting, and appropriation being used to create technical language in the *What is History?* lesson. It again demonstrates, using different linguistic tools, the way in which JT guides his students to a shared understanding of what various technical terms mean, thereby creating a linguistic hook that can be used to build key concepts. JT recontextualizes the language from the 'everyday' to the 'technical' in the detective field, then makes the connection to the historian's field by using the same technical words. An explicit link is created between the investigative processes used in both fields through technical vocabulary common to both.

An example of this recontextualizing process is evident in the first lesson where he begins to establish the kinds of sources detectives use to investigate a crime. In Text 4.11 (turns 53-72) through inductive questioning a number of sources are established. The teacher uses repetition of student's words (turns 53-54; 59-60; 67-68), appropriation of student offerings to build ideas (turns 55-56; 60; 69-70) and recasting from everyday to technical language (turns 58-59;61-62; 65-66) to develop sources of evidence. In turn 71 the student offer of *fingerprints* appears to be ignored by the teacher because he does not repeat it, but this is not the case. Rather, he enhances it by offering *blood alcohol* as a way of establishing these are all part of scientific evidence. The teacher does not return to the historian as participant until the final turn in this sequence (turn 72). So again, it can be seen that the teacher takes up or appropriates the student offerings, thereby providing them with a recontextualized version of their own ideas through paraphrasing and reconstructively recapping the interaction.

Text 4.11

Key: repetition - bold; recasting- bold italics*; appropriation -* bold underline.

Turns	Teacher	Students
53		um they like/ try to work it out/ they could have like **educated guesses**
54	**educated guesses**/ how do they make **educated guesses**/ what sort other than witnesses what do they start to do	
55		<u>**start like writing down the names and working out things like**</u>
56	alright /Ok /they if you like <u>**double check**</u> <u>**on the witnesses and they look for what they call collaborative [sic] evidence**</u>/ Ok /what else do they use other than collaborative evidence/ in Diana's death what did they use/ they talked about it ad infinitum on the news/	
57		*look in the car*
58	they look at *objects*	
59		they **examine**
60	they **examine**/ let's call it <u>the scene of the crime</u>/ Ok how do they do that/ask what sort of things do / they looked at the car/ so why are they looking at the car/ who who was in the car/ what do they use	
61		Um *computers*
62	J yeah they can/ yeah/in actual fact they can use witnesses for a *computer reconstruction*/ to explain what happened in the tunnel as they careered through it/ a car that explains	
63		how it happened
64	what else/ who does it	
65		*police scientist*
66	police scientists yes/ *forensic scientist/ forensic experts* etc etc	
67		they **hypothesize**
68	they **hypothesize/** yeah they do that too/ what other references do they use	
69		<u>**check with the paperazzi**</u>
70	yes they try to they <u>**look at photos**</u> /what else/ <u>**scientific evidence**</u>/ what else	
71		Fingerprints

| 72 | they took the blood alcohol level of the driver and all that sort of thing/ so all that scientific evidence to try and piece it together/ what sort of sources would an historian use because we're now talking about an event that is something that's taken place/ we may have eyewitnesses /we may not/ so other than eyewitnesses what else does an historian use | |

The teacher has by now established the following sources of information for the detective through the exchange which are all constituents of scientific evidence. They are:

eyewitnesses

educated guesses

collaborative evidence

objects   =   Scientific evidence

computer reconstruction

forensic scientists

hypothesising
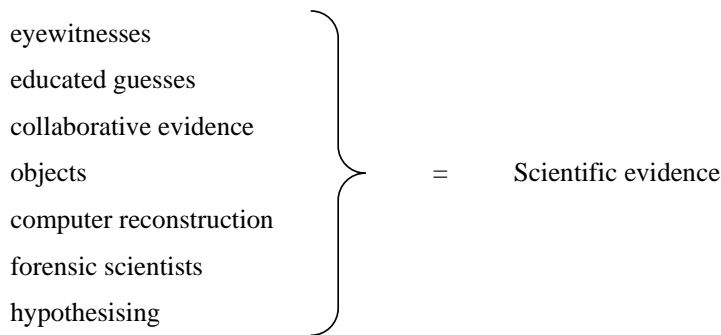
Next JT returns to the historian as participant to parallel what constitutes historical evidence as opposed to scientific evidence. This is illustrated in Text 4.12 that follows immediately from the previous text (end of turn 72 to 93). He repeats the pattern of inductive questioning and the use of repetition (turns 73-74; 80-81; 84-85; 86-87; 92-93) and appropriation (turn 82-83) to develop technical field knowledge. In turn 79 the student response of *in the bible* is repeated but the use of modality *could* and the following clause *I don't know what we're studying* implies this is not an appropriate source of historical information for the topic under investigation. In the next turn where the student offers *police records* the teacher again uses modality *could* to acknowledge these as possible sources. By turn 82 however, it is evident the students have not grasped the idea that historians need to use archaeological evidence from the response to his question*: what other types of records could we use,* so he provides the technical term, *archaeological evidence* and expands on what this means by reference to Aboriginal society and middens. This is then linked to the present with a question about the records of the Australian government and the response *hansard* is used as the link to the historical *source official records*. The students appear to have been put temporarily 'back on track' in turn 86 with the response *newspapers* although the student response *hieroglyphics* (turn 88) does not seem to be part of the teacher's 'script' in developing students' understanding about what constitutes an historical source and is not

appropriated as other student offerings have been. The student's offer of *historians* (turn 93) appears to complete the list toward which the teacher was working.

Text 4.12

Key: repetition – **bold;** recasting – ***bold italics*** appropriation – **<u>bold underline.</u>**

Turns	Teacher	Students
73		**records**
74	**records** /what sort of records	
75		books
76	like what?	
77		encyclopedias
78		in the bible
79	could be in the bible/I don't know what we're studying	
80		**police records**
81	we could use **police records** but what other types of records could we use	
82		um the **<u>(facts??)</u>**
83	he could go to the **<u>source of the crime / he could use archeological evidence</u>**/ OK and that's information gathered by archaeologists sifting through buildings/ in the case of us if you were studying aboriginal society you'd go through the middens and things like that/ records such as official records kept by governments/ what's records kept by governments in Australia called/ does anybody know/ it's a special book that anyone can read that is spoken/ you can actually read every word that is spoken	
84		**hansard**
85	**hansard** has recorded every word that is spoken /so you put all those official records that are available to the historian/ the births and deaths certificates	
86		**newspapers**
87	**newspaper**, magazine, photographs, film/ since the invention of the camera we've got a whole series of events that have been recorded visually for us /there's a whole series of visual eyewitness oral accounts/ unending unending /literally unending number of sources and types of sources a historian could could possibly use/ depending on events that is analysed	
88		if an historian is studying ancient history/ he could read hieroglyphics/ he could go to/ the hieroglyphics will tell you what you want to know

89	it would be nice if it did but unfortunately it doesn't	
90		it could tell the stories
91	yes it does/ but it wouldn't tell you everything you want to know	
92		**historians**
93	yes **historians** use other historians	

The sources for the historian are established as:

Records
books
archaeological evidence – middens
official records – hansard; births and deaths certificates   = historical sources
   newspapers, magazines, photographs, films
eyewitness oral accounts
other historians

The teacher has now established **what took place?**. In the few remaining minutes of the lesson the teacher signals, through cued elicitation (pausing for the students to answer), the need to move on to investigate other key questions (turn 93b).

> *OK so we studied/ OK what took place/ (writes on board)*
> *we choose an event and we ask the question what took place/that's the first*
> *thing we did/ then what would be asked/ we hypothesize about what/*
> *someone mentioned hypothesising*

The focus moves to establishing how the event occurred as the next stage in an investigation.

One student (turn 96) offers both *how* and *why* as options to investigate and the teacher chooses *how* and writes **how it occurred** on the board. JT returns to the detective analogy to develop this idea before relating it to the historian's role and answers his own question by recapping (turn 95 following) all of the scientific evidence established in the previous section: *eyewitness, photographs, forensic tests, blood alcohol levels of the driver.*

> *let's start with how/ in the case of Diana's death we've got all we can*
> *collect/ all the information from the eyewitnesses/ photographs /forensic*

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*tests /blood alcohol levels of the driver etc/ give an explanation of why on that night that car crashed/causing her to die/ the fact that she had no seat belt may have been a contributing factor/ all that evidence was collected in order to explain how the whole event occurred that led to her death/ **then** there's another question to be asked.*

The teacher signals through the temporal connective *then,* he wishes to move on to the final question *why it occurred?* The students demonstrate they are following his line of thought as they respond to the cued elicitation with the word *why.*

In turn 99 the teacher relates the way in which the *what* and *how* of an event are used to explain *wh*y and links this to the way an historian conducts an investigation. This turn is discussed in the previous sub-section on paralleling on page 54.

In turn 101 the teacher again asks the inquiry question: *what's the point of looking at the past* to check the students have understood his explanation of *What is History?* The response *to see how it's changed the present* is repeated by the teacher and is used as a springboard or 'pivot point' to provide a metacomment about the purpose of studying History. This is illustrated in Text 4.13.

Text 4.13

Turns	Teacher	Students
101	well a lot took place/ well almost automatic/ what went in there/ we can write those things down/we'll be constantly asking those questions/ it will be related to the past/ it will be related to the change/ and something else that you all included most of you included in your one little sentence/ somehow we've got to relate that/ what's the point of looking at things in the past/ what's the point of looking at the past	
102		discovery
103		to see how it's changed the present

104	to see how it's changed to the present/ it's all very well/ but unless we can relate those changes to how it affects us or how it may potentially affect our future /it ain't worth doin'/OK /so historians always relate things to the impact on the present/ if I was trying to explain who I was as a person I would have to explain my history/ if I wanted to understand who I am as a person I've got to understand my history /and this is why history is so important and why this word here is so important/ if I want to understand my country I've got to understand its history/ if I want to understand the world and the way it is and all the troubles and strifes and good things about the world /I've got to understand its history/ if I can't understand modern politics unless I understand the politics of the past/ same thing/ so it is absolutely essential if I want to understand our world/ the world we live in now and the future and ourselves to understand the history of it/ unavoidable unfortunately gentlemen/ unavoidable/ any questions	

Table 4.13 illustrates JT's use of all the words that he wrote on the blackboard at the beginning of the lesson in this section (*change; effect; past; people)* to recap the key elements of History and thus complete the lesson sequence.

Table 4.13: Correlation between spoken and written key words

Words written on blackboard at beginning of lesson	Words spoken by teacher in recapping section 104
change	*changed*
effects	*how it affects us*
past	*history* *politics of the past*
people	*we, us, person*

JT continues the pattern of repeating, recasting and appropriating student responses in *The pyjama girl mystery* in order to highlight key connections in the unfolding mystery. In the following section (turns 268-289a) the importance of finding a motive for the crime is established through the teacher's discourse strategies of repetition of student's words (turns 286-7), appropriation of student offerings to build ideas (turns 280-1; 284-5) and recasting from 'everyday' to 'technical' language (turns 268-9).

Text 4.14

Key: repetition – bold; recasting- *bold italics*; appropriation – <u>bold underline.</u>

268		he said if /that he *told the truth*/ his wife did leave him
269	precisely/ Mr Agostini just ***told the perfect truth*** /he just didn't tell the whole truth/ he didn't tell someo/ people how his wife left him	
279	the police have now got an identity/ they've got a suspect /what do they got /what do they have to try to establish now to try and link Tony with Linda's death in order to start constructing a case/ they have to link Tony with what	
280		um why um <u>**why he um split up with her**</u>
281	well we got to <u>**try and find some sort of motive maybe**</u>	
282		was he angry about it
283	what else might do we/ might have to link the two of them together/ what have we got to try to establish/ think about it	
284		<u>**was he um/need to go away**</u>
285	yeah <u>**we could then start interviewing**</u>	
286		<u>**friends and**</u>
287	**friends,** neighbours	
288		SS calling out
289a	Yeah so we start looking for information about their relationship	

In this section on paralleling and recontextualizing, the ways in which the teacher builds on students' previous knowledge has been discussed. Rather than merely giving his students the facts to be committed to memory, JT designs into the Induction genre lessons opportunities for students to assimilate new ideas and transform their learning. Also significant is the way he responds contingently to student needs as they grapple with new ideas through the use of various oral scaffolding strategies.

Although JT is in reality the 'expert' in the content it does not mean students have nothing to contribute to their own learning. Even though JT uses a traditional methodology of questioning (the IRF) pattern that permits him to maintain control of the discourse, he still provides a supportive learning environment for his students where they can work collaboratively with him to construct new understanding that transforms their conceptual understanding about what the study of History entails and the methods of historical inquiry.

As Corden states:

> Being an expert is about more than possessing and transmitting information.
> It's about understanding how children learn, encouraging and creating
> effective learning climates, developing interpersonal relationships and
> knowing when and how to intervene productively.
> (Corden 1992, p.184)

Section 5: drawing on additional semiotic systems: multimodal support

The multimodal nature of lessons provides one of the 'tools' the teacher uses to scaffold his students' understanding as they engage in the investigation of what History is and how historical inquiry is enacted. Smagorinsky (1995) argues the need for students to be actively involved in the co-construction of knowledge through participation in a dialogue with teacher, texts and peers that makes use of a range of semiotic modalities in addition to language. Lemke (1998, 2002) also argues for the utilisation of semiotic systems other than language to develop understanding. Meaning, he states, is mediated by a range of resources including visual, gestural and actional components.

In the History classroom in this study, the teacher uses dynamic 'tools' such as written text on the board, lines and arrows to connect different key words and phrases on the board and circles around key words for emphasis (Appendices 12 and 13) to fulfil various functions during the lesson. This adds "message abundancy" into the lesson as the propositional content is presented in a different way and what is significant is marked. Hand gestures such as pointing and placing hands palm open are also employed to supplement the teacher's verbal text. In both lessons of the Induction genre a number of significant moments occur where the teacher includes multimodal tools to support students' understanding.

Combining semiotic systems: What is History? lesson

To begin the exploration of what History is the teacher writes, in capital letters in the middle of the board with a border around it, the words:

WHAT IS HISTORY?

As previously discussed, he then engages with the students in a dialogue to establish the way in which key words previously established relate to the study of History. The next

step is to ask the students to write down their own definition of *'History is.....,'* thus engaging the students in the written mode. Three written student definitions are written on the board and act as a pivotal point in the discussion. As student one writes his definition the teacher repeats each word as the student writes it. This echoing or 'revoicing' (O'Connor and Michaels, 1996) is a familiar strategy in classrooms. It is a form of "message abundancy" that reinforces the information through both the visual/aural modalities.

The teacher's typical pattern of walking around the room with the students' following with their eyes and in some cases physically turning around, keeps the students' attention focussed on the teacher. In a sense, the crisscrossing of the room could be considered as a way of holding all the students' attention by creating imaginary vectors (lines) that enclose the students within a defined space from which the teacher moves in and out. This strategy has an interpersonal function rather than the experiential function. The change in intonation which signals to the students they are to respond (a cued elicitation) is also a typical strategy, again used to check the students are following the teacher talk. Students are also required to signal their opinion about *the strongest word to describe history* through actions (raising their hands).

The teacher tallies the students' choices on the board next to the key words. This physical action provides a visual cue for the students to see **change** as the most significant word that the teacher further reinforces by circling and underlining it on the board and then touching it. In Text 4.15 (turns 26-30), JT connects **change** with people by placing a dot next to *people*. Thus he has semiotically connected these two words. At this point he then engages in a dialogue with the students that begins to move them from their *people focus* in History (which is the students' current understanding) to an *event focus* (which is what the teacher wants to students to understand). This transition needs to occur gradually and he scaffolds the students' understanding by shifting their focus from **people** by connecting them first to **changes** then to **causes** then reconnecting **causes** with **changes**. His words are reinforced by the multimodal use of gestures, underlining, circling and pointing (See Appendix 12 for the complete visual of the board).

Text 4.15

t	Teacher	Students	Multimodality
26	we've got to start looking at what else/ if we study change you've got to look at the past to be able to describe what **changes** have occurred/ what else have we got to do/ look at people/ how people have changed/ yeah so in describing change we are in actual fact describing people/ what do we do when we look at change		walks to board and circles the word **change** underlines **change** and puts dot under **people**
27		in what way it's affected us	
28	yeah right /in actual fact how that **change** has affected us		walks to board and touches **change**
29		the causes	
30	yeah/ what **causes the change**/ that's why I like that word as the strongest word to describe it/		points to *causes* and points to **change** walks back to right side of room

In Episode 4, JT begins to apprentice his students into an understanding of historical methodology by introducing key concepts about *what took place* and *when; how it occurred; why it occurred*. Key understandings about events and the use of various sources of information are introduced and their interrelationship is tracked multimodally through arrows. The teacher engages in a pattern of eliciting responses from the students that he writes on the board and draws arrows to show relationships. JT supports the students orally through his questions, the answers to which reinforce critical understandings about the importance of information and its sources as well as through other modalities. The message therefore is presented orally, visually and gesturally.

Text 4.16 (turns 38 – 93) contains the whole Episode. Some key turns demonstrate how the teacher uses gestures, key words written on the board, and arrows and underlining (multimodality) as a scaffolding strategy to support his students. In turn 52, JT links the key words elicited from the students through repetition of words and arrows, to their relationship in determining the events. These in turn relate to the concept of examining **what took place**; a key principle in historical methodology. The strategy of pointing to words on the board while saying them acts as a visual cue for the students to connect

how these words relate to historical inquiry. This visual cueing is used again later in the lesson.

Text 4.16

	Teacher	Students	Multimodality
38	alright OK / I think our historian would start off with just choosing an event/ OK to begin our investigation for example / who is /well think of someone who investigates something/ a detective/ there has to be an event for him to investigate OK/ so what event does a detective investigate/ a crime/ -a murder/ a robbery/ whatever/ so he chooses/ an historian chooses an event/ his next /his next task is what		Raises right index finger as gesture then walks to board and writes the word **events** on far right side on board in the middle. Raises hands in air then walks to board and points to **events**
39		oh finding the (location??)	
40	OK so he finds out presumably what took place/ sometimes sometimes easy sometimes difficult isn't it to find out what took place /but it''s a descriptive task/ if you took for example if we use the example of Princess Diana's death/ do we know really what happened		Writes **what took place** and connects to **events** with an arrow then walks to right of room. Board looks like this: ***events** -----------> **what took place** Walks with arms outstretched across front palms up
41		no	
42	we've got a reasonable idea/ the poor old detectives have a difficult time getting all the information/ sometimes historians have the same sorts of difficulty/ what do we have to rely on/ what the source of what are we looking for		
43		information	
44	information about the event/ what else / what is another word that could be used to describe information		Walks to board and writes **information** and draws an arrow from **events** Board looks like this: ***events'** -----------> **what took place** 　　　　　　　　　**information**
45		(dates??)	
46	well as far as the detective		

47		facts	writes **facts** on board next to **information** and moves away
48	information/ facts/ we're looking for the facts/ what do detectives call this		
49		evidence	
50	evidence/ so a historian doesn't he get his evidence from a whole variety of sources doesn't he/ what sort of sources does a detective use/ a detective is investigating Diana's death/ what 's the sort of sources he uses		walks to board and writes **evidence** below **facts** Writes **'sources'** then draws a double headed arrow between the two words Board looks like this: **events -----> what took place** **information** **facts** ** sources <-----** **evidence**
51		eye-witnesses	
52	eyewitnesses/ so we're starting to just/ using the detective analogy/ we're starting to construct whole series of words that describe what historians are doing/ and that was our other task wasn't it /to describe what historians do/ so in order to investigate an event the detective or the historian works out **what took place**/ he gathers **information** from a whole series of **sources**/ tries to gather **facts** and **evidence** /so he seeks **witnesses**/ in the case of Diana's death it would be eyewitnesses/ what other information do they then start to gather		writes **witness** under **sources** Points to each of the words on the board as he says them (highlighted in column) moves away from board

The multimodal nature of the teacher's lesson is a significant strategy to support students in understanding key concepts in the study of History by drawing on a range of semiotic systems. It enables the teacher to establish small segments of information in specific parts of the board and relate them to each other through gesture, underlining, arrows and circles. All of these add to the creation of a 'big picture' view that answers the focus question *What is History?*

Semiotically linking clues to create a 'big picture': The pyjama girl mystery lesson

As with the previous lesson, the teacher JT makes extensive use of the board to assist students to follow his line of reasoning. The writing on the board, underlining, circles, pointing to key words and drawing imaginary lines to different clues all contribute semiotically to the students' understanding of the process of historical inquiry.

This lesson begins by referring to the list of clues on the right hand side of the board written down in the previous lesson (Refer to Appendix 13). JT moves to the second clue `the cream/green pyjamas` to begin the discussion and recasts the student contribution as `brand name location of outlets`. As the discussion about the pyjamas continues JT walks around the room and occasionally returns to the board to point to key words which reinforce his verbal utterances. He semiotically links the two clues `pyjamas` and `bag` by drawing a bracket to connect them as he says *we can probably lock those two things together can't we.*

The discussion then moves on to discuss the towel which was initialled. JT is trying to lead the students to understand the importance of eyewitnesses in identifying the first clue – *pyjamas, bag* and *towel*. He writes the word `witness` as he says *manager, people who possibly had seen her.* He has recast what he said in a written form as `witness`.

The clue of location, which the teacher points to as he refers to it, is the focus for Episode 2. He writes `Vic` and `NSW` next to *location* when a student says *she could either be in Victoria or NSW.* He then leads the students to the need to interview neighbours, adds `interview, neighbours` and brackets it with `Vic` and `NSW` and adds a student's contribution of `petrol stations`. In developing a straight line with brackets connecting each idea in the location clue he has provided a visual cue or semiotic link for the students to see the line of reasoning that is being established. This pattern continues in Episode 3 with the car clue. Again JT accepts student offerings *we get forensic experts and see how old* and writes `expert to ID tyres`. As discussion continues around this point he draws a line from experts to `possible car`. When he asks the students *who else can you think of anything else we could be worth doing,* the reply

is *contact a neighbour or the guy from the petrol station*. JT points to each of these words as the student says them then draws a connecting line from `possible car` to `police reports about cars` as he says:

> *yes we can try and link these two things together can't we/ as we are going around looking asking people about if there are strangers in town/ if we've got something** this car as well/ have you seen such and such a type of car/ those things can be linked together.*

The final part of this Episode sees JT accept a student offering of *if we could assume the direction they're coming from* by adding `direction ??` to the board.

Episode 4 moves on to consider the description clue. JT walks to the board and points to this clue. One student offers *check with missing person* which JT writes beside `description.` Another student contribution is *describe her put it over the radio* and JT adds to this and then draws a line from `missing persons` writes `publications` and draws lines to connect `wireless newspapers posters etc.`

JT then asks *OK so that's all aimed at doing that/ anybody with any other ideas about how we investigate any of those things* to which a student replies *oh um how/ and was the policeman said was it hit her with a hammer/ other*. He writes on the board next to the first clue `face mutilated body burnt` the words `other crimes of this type.` He brackets these in the same way as he has bracketed all the other elaborations that represent the thinking generated from the basic clues presented in the written material. Again, the students are provided with a visual cue or semiotic link that assists them to track where the discussion has lead them in their investigation of the crime.

In exploring the final clue, JT begins to read from the written notes. The students follow their own photocopy of the clues. A student takes over reading aloud after the first sentence is read by the teacher. After further discussion the teacher writes on the board `display of body` and underneath in a text box the name of the victim `Linda Agostini.` JT says *she lived in Kings Cross Sydney so we've got another location and she's got a husband Tony*. A student adds *they said that she moved to Melbourne*. JT adds the

following to the board Kings Cross   Tony   Melbourne with a curved line connecting the two places.

JT continues to read the seventh clue from the sheet as he paces up and down the room. He writes 28 August - 31 August under the name Linda Agostini. As discussion continues about the husband being a suspect JT says:

> *the police have now got an identity/ they've got a suspect /what do they got /what do they have to try to establish now to try and link Tony with Linda's death in order to start constructing a case/ they have to link Tony with what*

As he says this he circles the word Tony and points to Linda. Then he leads the discussion to consider information about their relationship. He writes Motive then underneath information about relationship. In the next few exchanges JT assists the students to draw the connection between Tony on the right of the board and the clues on the left hand side of the board. The positioning of the name of the suspect, Tony, is significant. It draws on the linguistic notion of **Given** and **New**, in which the **Given** position relates to the left hand side of an image or page where the information is considered to be already known, and the right hand side relates to **New** information. This term is used by Kress and van Leeuwen (1996) in their framework for reading visual images and draws on the reading orientation in Western cultures of reading from left to right. Thus information is built from left to right. JT implicitly uses this concept to draw the students' attention to the relationship between the suspect and the given clues. The clues provided are in the **Given** position and the teacher semiotically links the two by pointing at Tony the suspect, then to the clues on the left. JT's use of **Given** and **New** structures is also evident in the way he uses the board. He first develops ideas that are known clues on the left then moves to new ideas on the right, finally linking them together. He confirms the connection verbally between the clues given and the husband by saying:

> T: *what next/ come on there's got to be/ its plainly obvious/ we've got a whole list of clues down the left hand side of the board and we've got a suspect/ one of the first things that we've got to*

> S: *investigate*

> T: *try to to create the link between these two events*
>
> S: *check if he had a car like that*
>
> T: *oh thank you /see if we can link the car to Tony/ what else*

After a few more exchanges a student finally adds the clue the teacher was looking for *initials on the towel.* He then points to the two clues on the left, `towel-initials` and `car.` Further discussion about what the initials on the towel would be if they were linked to Tony resulted in the initials `AA` which were written on the board under the date of the murder.

JT now draws the students' attention to the need to go back to interview mode and establish whether the pair were together at the time of the murder. He writes `interview neighbours` under the initials `AA`. Finally the class are directed to look at source 11 which the teacher reads from the sheet. In the summing up exchange where the teacher discusses how evidence is used to construct a case he uses hand gestures and intonation for emphasis as well as pointing to the clues on the board and drawing an imaginary line with his hands between the clues.

> *alright/ so with Tony's confession of course it makes the police job of finding out who did it much easier/ but if you look at the evidence that we've got and that we we've been able to construct/ you could construct /you can see that we have begun to build a very convincing argument around the identity of the murderer /depending of course on the information that you would have got from neighbours/ motives/ if in actual fact/ if this initial here matched that initial there/ car skid marks and tyre marks were identifiable as his/ well that somehow these green pyjamas/ green and cream pyjamas with the motifs could be linked to the couple as well*

Throughout the lesson, the use of written text on the board has played a critical role in supporting the students' understanding of the connection between different clues and how these clues could be of assistance in uncovering the murderer. In this lesson the teacher has used various multimodal strategies to semiotically provide support for the students as they undertake a murder inquiry which mirrors the key processes in historical investigations.

Conclusion

This chapter has demonstrated the role of the teacher in developing students' conceptual understanding about History and historical methodology through the mediating tools of language, spoken and written and other semiotic systems. The "designed-in" scaffolding nature of the Induction and Macrogenre apprentices JT's students into thinking and speaking as historians. Through detailed analysis of the data using various linguistic tools, it is possible to describe **how** JT develops his students' conceptual understanding of the study of History through different discourse strategies. Examples of discourse strategies evident in the lessons are: increasing the prospectiveness of questions; repeating, recasting and appropriating language to develop technical vocabulary and recontextualize the content; metacomments and paralleling; as well as multimodal support through visual, gestural and actional cues. These all combine to create a dialogic environment within which students can construct and transform knowledge. These discourse strategies together "offer a clarified, coherent 'story' of classroom experience so that students grasp the overall structure and purpose of what they are doing" (Mercer 2000, p.71-2).

Making meaning through History:
scaffolding students' conceptual understanding through dialogue

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**Chapters 5-6
Appendices
Bibliography**

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CHAPTER 5

Continuing the dialogue:
recycling the discourse strategies

Learning is a social process that occurs through interpersonal interaction within a cooperative context. Individuals, working together, constructing shared understandings and knowledge (Johnson, Johnson & Smith1991).

Introduction

In this chapter a number of excerpts from the Egypt unit of work that spanned seven weeks are examined to highlight the repetitive use of the discourse strategies identified in the previous chapter and to illustrate their role in supporting students' cognitive development. The lessons are structured to expand content knowledge and develop further historical understandings from the focus questions established in the Macrogenre lesson *Egypt 1*. This indicates a "designed in" scaffolding approach to increasing students' understanding of the topic, which is complemented by the teacher's continual 'fine tuning' of the students' understanding through contingent adoption of various discourse strategies, as he and his students engage in a collaborative dialogue.

Transcripts of *Egypt 1* and *Egypt 2* are contained as Appendix 14 (which includes a transcript of group work) and Appendix 15. An overview of the stages in the lessons transcribed for analysis is contained in Appendix 16.

Part 1: extending understanding through questions

Part 1 investigates the way in which the focus questions in *Egypt 1* and *Egypt 2* are developed by JT through his questioning technique, previously discussed in detail in Chapter 4, Section 3: increasing the prospectiveness through questioning. Extracts from key Episodes in *Egypt 1* shows the importance of this strategy in consolidating understanding of key principles of historical study introduced in the Induction genre. *Egypt 2* continues with this analysis and, in addition, draws on lexical string and multimodal analysis to investigate the different strategies employed by JT to support students' understanding of the topic.

Investigating focus questions

In the two Macrogenre lessons, *Egypt 1* and *Egypt 2*, the focus questions for the unit are developed. These questions replicate the pattern established of *who, what, when, where* and *why*, previously established in the Induction genre.

Egypt 1

As discussed in the previous chapter, increasing the prospectiveness of questions is a significant discourse strategy to extend students' thinking and enables the teacher and students to jointly transform prior knowledge and to construct new knowledge. In the texts that follow, again in the move type (IRF), where the feedback move provides more than an acknowledgment of a student response has been marked as **F**, and the corresponding function column coding will also be in **bold**. Typically the **F** is followed by a further **I**nitiation question that increases the prospectiveness of the question, thus pushing the students to consider more sophisticated relationships.

This type of questioning is evident in Text 5.1. There is evidence of three turns (lines 74, 95 and 104) where the teacher increases the prospectiveness of the exchange in the feedback move to consolidate his students' understanding about the process of historical investigation.

As in the previous chapter the following abbreviations are used.

     Column 3:   M = Move type in IRF

     Column 4:   Prosp. = Propsectiveness – Demand/Give/Acknowledge

Abbreviations in the Function column are:

Req. info.= request information

Give info. = give information

Give expl. = give explanation

Reform. = reformulate

Ack. = acknowledge

Req. justif. = request justification

Req. expl. = request explanation

Req. clarif = request clarification

Text 5.1

Line no.	Episode 1: sequence 2	M	Prosp.	Function
69 70 71 72	Ok we start to set up a number of questions which we can call if you like some focus questions then become what/compared with our murder what do our focus questions become like	F I	A D	**Extend** Req. info.
73	S: our new clues	R	G	Inform
74 75 76	yeah our clues/ so we set up a number of focus questions that we treat like our clues so that what we what you're going to start to do this lesson	F	A	Repeat/**clarify**
77 78	S: sir are we going to specify/ like each person in the group a specific task	I	D	Req. info.
79 80 81	no you will eventually do that um but I will explain that in a minute/you're going to get into groups and it will be fairly straight forward	R	G	Inform
82 83 84 85 86 87 88 89 90	alright so that we're going to set up a number of focus questions that may/ we'll treat like clues/ and we might in actual fact have a series of sub-questions under each one of these focus questions/ and is already suggested one of the easiest focus questions to establish / where was it/ Ok so that's an easy one to think about/ so when beginning an investigation of an/ land of the Pharaohs Ancient Egypt/ we have to set up a number of focus questions which we need to then investigate and discover what/			
91	what are we going to end up discovering	I	D	Req. info.
92	S: what/ all about Ancient History	R	G	Suggest
93	well we might/any other ideas	F/I	A/D	Accept/req.info

94	S: where, when, what, who and why	R	G	Inform
95	yeah, we're going to start answering those questions/	**F**	**A**	**Reform.**
96	questions that historians ask/			
97	aren't we/ prior to beginning/			
98	so remember those questions when we're setting up our			
99	focus questions/we sort of put when and what together/			
100	how and why those are the sort of the 3 things we're			
101	saying that historians start addressing before looking at			
102	any questions			
103	S: sir, could we have who	R	G	Suggest
104	we could have who too couldn't we/ because after all we	**F**	**A**	Accept/**extend**
105	could ask who are the Pharaohs			
106	yeah so we/ we in actual fact we might be able to identify			
107	the Pharaohs by investigating/ find out something else about			
108	Ancient Egypt/			

In lines 69-72, JT first creates a connection between the clues in the previous lesson (the murder mystery in the second Induction genre lesson) and focus questions. In this lesson, JT begins by asking the question: *what do our focus questions become like,* and accepts the student response: *our new clues*. By repeating: *yeah our clues* and extending his response, he clearly articulates the relationship between the clues and the focus questions: *so we set up a number of focus questions that we treat like our clues* (line 74). The student response: *our new clues* also shows evidence of the development of metacognition.

The teacher appears to have been successful in assisting his students to understand the key components of historical inquiry. This is evident in the student's response: *where, when, what, who and why* (line 94). JT immediately takes the opportunity to reiterate the link between these questions and the role of an historian. He then extends his students' understanding of this relationship between the focus questions and what they reveal to an historian, by extending his response to the student response: *we could have who* (line 103). He states that, through investigating one aspect, in this case *who*, other information about Egypt will come to light: *we might be able to identify the Pharaohs by investigating/finding out something else about Ancient Egypt* (lines106-108). This is a significant discourse strategy used to guide students to make connections with previous learning. As Mercer argues:

> Teachers have a professional responsibility for helping their students to build
> new understandings upon the foundations of their previous learning, and

language is the main tool available to the teaching profession for doing this. But they may also be doing something more than helping students make overall sense of the content of their learning. By encouraging students to draw on the experience of previous activities, recall relevant information from these and offer this in the form of a class discussion, teachers can also help students to learn how language can be used as a tool for making joint, coherent sense of experience.

(Mercer 2000, p. 51-52)

Further evidence of the teacher increasing the prospectiveness of the exchange in feedback moves to extend his students' thinking occurs in Episodes 5, 6, 7, 8 and 9 of this lesson. Exchanges that demonstrate how feedback functions such as extending, reformulating, clarifying and evaluating, and "metacomments" are used to co-construct knowledge, are discussed in the commentaries which follow each text.

Episode 5

JT uses different feedback moves to extend the student understanding in Episode 5. In Text 5.2, JT's question: *why do you want to ask that question anyway/ because just that's presumed isn't it* (lines 221-222) is designed to show the students they have not 'gone back to first principles' in historical methodology. They are asking a question that is supplementary to a previous question that has not yet been asked: *we're already assuming some prior knowledge aren't we/ what sort of prior knowledge are we assuming* (lines 226-7). In the next exchange, the teacher provides the students with the missing question. Through reformulation, JT recontextualizes the student response to make it more historically appropriate: *so we could actually ask the question something like who ruled Ancient Egypt and that's er /and then we would discover that it is was the Pharaohs /and then we could ask the question well /who were they /what did they do and then we could go through that series of questions couldn't we*. This turn (lines 234-239) creates a "metacomment" on one aspect of historical study – **who** - in which JT, by 'thinking aloud' his reasoning, has clearly articulated how the various questions relate to the superordinate question *Who ruled Ancient Egypt?*.

Text 5.2

Line No.	Episode 5	M	Prosp.	Function
216	S: what do they do with the Pharaohs after they die	R (from previous question)	G	Suggest
217 218	We're going to change the er /is that another focus questions or a sub-question of this one	I	D	Check
219	S: no another question	R	G	Inform
220	S2: another focus question	R	G	Inform
221 222	why do you want to ask that question anyway/ because just that's presumed isn't it	I	D	**Req. justif.**
223	S: the role of the Pharaohs	R	G	Inform
224 225 226 227	Ah well /what is the question we ask before that when we we say what did they do with the Pharaohs after they die/ we're already assuming some prior knowledge aren't we/ what sort of prior knowledge are we assuming	**F/I**	A/D	**Evaluate**
228	S: who are the Pharaohs	R	G	Inform
229 230	yeah who are the Pharaohs /or even to the extent /what else/ what other prior knowledge are we assuming	**F/I**	A/D	Repeat/**req.expl**
231	S: (classification ??)	R	G	Inform
232	yeah we are doing that as well	F	A	Accept
233	S: what are they	R	G	Inform
234 235 236 237 238 239	what are they/who are they/ so we could actually ask the question something like who ruled Ancient Egypt and that's er /and then we would discover that is was the Pharaohs /and then we could ask the question well /who were they /what did they do and then we could go through that series of questions couldn't we **	**F**	A	**Reform.** "**metacommen**" **on study of** *who* **in History**

Episode 6

Text 5.3 from Episode 6 provides an example of the teacher appropriating the student's response: *um how did they develop their maths* and recontextualising it to a more general question about: *how to build things,* which he then recasts as *basic engineering.*

This is an example of what Lemke refers to as "retroactive contextualisation". It can sometimes lead to quite a different outcome from what the student intended. This could be

the case in the example above containing the implied link between mathematics and basic engineering.

> Retroactive recontextualisation…is of considerable importance to the theory of meaning. In essence it means that after an answer has already been given, which had one meaning in the context of the dialogue that preceded it, the teacher says something to alter the context and make it seem that the answer had quite a different (or additional) meaning.
> (Lemke 1990, p.103)

The teacher works with the students within the 'intermental development zone' (IDZ), a shared contextual frame of reference (Mercer 2000), and acts contingently to work the essence of the student response into the discourse as a more generalized term. However, the students have not yet provided questions that consider the focus History question: *what*, so JT continues his questioning in the next Episode.

Text 5.3

Line No.	Episode 6	M	Prosp.	Function
255 256	I think we're still missing an important focus question somewhere along the line folks	I	D	Req. info.
257	S: um how did they develop their maths	R	G	Suggest
258 259 260 261 262	OK they must have developed a fair bit of understanding of how to build things when you consider what they did build/ they must have had a very good idea of basic engineering in order to do it/ so we'll discover some of those things as well hopefully	**F**	A	Accept/**extend**

Episode 7

Text 5.4 illustrates the discourse strategies of repeating the student response: *what were their foreign affairs like*, to show acceptance, then recasting it as: *relationship to their neighbours,* in order to recontextualize it into the field of History. JT then writes this on the board as a focus question, thereby marking it even more strongly as a significant piece of understanding. He shows his preference for this as a focus question for historical investigation, although he acknowledges *foreign affairs* is a word commonly used in the present time.

Text 5.4

Line No.	Episode 7	M	Prosp.	Function
280	S: what were their foreign affairs like	R	G	Inform
281 282 283 284	what were their foreign affairs like/ that's their relationship to their neighbours /but these days we call that foreign affairs/ I don't know what they would have done it in Egyptian time	**F**	A	Repeat/**clarify**

Episode 8

Again, as evident in Text 5.5, through recasting and recontextualising, the student responses, *pyramids* and *sphinx* become the more generalized term *architecture* while: *how was it built* becomes the question: *how was society organized?* As this concept is quite abstract, the strategy of paralleling, used in the Induction genre lessons, is again employed by JT to scaffold students' understanding. He creates a concrete example of how society is organized through an analogy by drawing on his students' current experience of how Australia is ruled today. He then links this analogy to what it means in an historical investigation of Ancient Egypt (lines 302-305) and foreshadows a difference: *and we may in actual fact, we may find that in ancient Egypt the way things were organized in the way things ran or were made to run was entirely different to our modern experience.* JT then recaps this Episode with a "metacomment" that repeats the prediction students will find the organisation of Ancient Egypt very different from the one with which they are familiar: *so we've got to think about how society is organized/ in actual fact we might/ something about that organisation that we may say is very similar to what we do now/ or we may discover it is very different"* (lines 320-324).

The focus question, H*ow was society organized?* is a significant one in the study of History and explains JT's reformulation and extended response. In his interview conducted towards the end of the unit of work, JT explains why the organisation of a society is fundamental to the study of any society.

> *I guess what we're setting up here with Year 7 we're setting up some structures*
> *which we're hopefully going to build on later on/ and so those the connections*

of things and power structure you know/ like this setting up how did a person establish their authority you know/ I mean if you look at/ if kids look at government in Egypt, they look at government in Greece and if we have a bit of time we'd look at Rome/ really we're run out of time but we look at two governments and you know it's starting to ask that question where does sovereignty lie /but if you when you look at say Athenian democracy you say well where does authority lie/ if they kids can't point to the king anymore or to the Pharaoh they've got to say well it's amongst civilians so where / so how did the Pharaoh gain his authority/ well he was chosen by god /where does the authority come from in the government in Athens that's a different/ you show the shift **so hopefully they start to understand why political interrelationships are different in a democracy than they are in a** */cause hopefully in Egypt we establish the idea that your authority as a vizier is established because you were appointed by /that's what we were trying to get at here.*

Text 5.5

Line No.	Episode 8	M	Prosp	Function
285 286 287	what else/ have we covered all the things that we needed to know/ we've got when when where how did it start/ how did they build the pyramids /just pyramids	I	D	Req. info.
288	S: sphinx	R	G	Inform
289 290 291 292 293	yeah all sorts of buildings/ so we might look at their/we might look at their architecture generally because you know/ they just didn't build pyramids/ they built obviously sphinxes but they would have built towns,/all sorts of things which we may tell us more about them	**F**	A	Accept/**reform.**
294	S: **	R	G	-
295 296	we've asked that question/ who will be/does that lead us to anything else	F/I	A/D	Reject/req.info.
297	S: how was it built/	R	G	Inform
298 299 300 301 302 303 304	yeah we say something like How was society organized/ Okay/ so if you think about our our society right now/ and if you wanted somebody was investigating what Australia was like in 1998 you'd ask what the government was like and how society was organized/ and we may in actual fact, we may find that in ancient Egypt the way things were organized in the way things ran or were made to run was	**F**	A	Accept/**reform.**

305	entirely different to our modern experience/their system of		
306	government is obviously different /I don't think we call M		
307	Howard the Pharaoh of Australia/ and we certainly don't		
308	mummify him when he's dead and put him in a pyramid/so		
309	our attitude towards our leaders may be entirely different		
310	/some people might like to mummify him but /you know		
311	some people may think that he's already mummified/ yes I		
312	know/ but that's another issue /		**"metacomment" about the study of society**
313	OK /so we've got to think about how society is organized/		
314	in actual fact we might/ something about that organisation		
315	that we may say is very similar to what we do now/ or we		
316	may discover it is very different/ anything else/		
317	government/ society/ we've looked at main industry/ what		
318	sort of industry do you/can we break that down into sort of		
319	subsections/ think about what Australians do now /they		
320	don't all do the industry/ there are going to be some other		
321	things that we may look at/		

Episode 9

Text 5.6 is from the final minutes of the lesson where the teacher finalises the focus questions and adds *tradition* to *religion.* He again repeats the student offering and extends it to relate to current practice in modern society. A student responds to this with c*hristmas,* demonstrating he is following the exchange and relating it to his own experience.

Text 5.6

Line No.	Episode 9	M	Prosp.	Function
336	S: traditions it goes with religion	R	G	Suggest
337	tradition goes with religions/ it certainly does /OK	**F**	A	Repeat/**extend**
338	/so we can start to ask what sort of traditions they			
339	had/ they used to have an annual holiday/ what a			
340	good idea/ so good we still do it today			
341	S: christmas	R	G	Inform

Egypt 2

This lesson completes the pair of lessons I have referred to as a Macrogenre. As discussed earlier, their purpose is to apply knowledge regarding the nature of historical inquiry demonstrated through the first two lessons (the Induction genre), and what this means in terms of studying a topic. In this context, it is the study of *Ancient Egypt.* The same coding conventions as used in *Egypt 1* apply.

Episode 1

As in the previous lesson, JT recycles the same discourse strategies of repetition, recasting and appropriation of student responses, as a means of channelling the discussion to a shared understanding of the process required to find answers to the focus questions posed in *Egypt 1*. In Text 5.7, three feedback moves are used by JT to extend the student responses. The first extension involves the teacher recasting the student response *books* to his original question: *how are we going to find an answer to these questions* (line 20), to a more technical term *a journal of our research.* The teacher next appropriates the student response to the question of how you would show where Ancient Egypt was by using a map, and extends the exchange by asking a further question (lines 40-43). Thus, JT provides the opportunity for further recasting in which: *one of where it is on a world map and one where it is close up* (lines 38-39), is changed into the more technical term *context*.

In another extension (lines 45-47), JT recasts the student's response *coordinates* to *latitude and longitude,* and introduces the technical term *cartographer,* while commenting that these terms belong to the discourse of Geography rather than History. JT clarifies the student comment on *bordering countries* (line 64) by using the term *neighbours.* He has taken the opportunity to act contingently here by introducing the term *neighbours* into the discourse which is referred to later (line 244) in relation to trading with neighbours.

Text 5.7

Line no.	Episode 1:sequence 1	M	Pros p.	Function
18 19	so how are we going to find this out/ how are we going to find an answer to these questions	I	D	Req.info.
20	S: books	R	G	Inform
21 22 23 24 25 26 27 28	yeah books/ that's always an easy way to do it/ we're going to establish a journal of our research ok/ so we are going to establish some sort of record of what we are finding out/ we've also got to work out a way of presenting our answers/ let's start with where/ if we we're going to order our findings/ what is the best way we could report on our findings for the answer to where Ancient Egypt was	**F** I	A D	Repeat/**extend** Req. info.
some text missing				
32	no no/ what's the best way to report them/ that's the	F/I		Reject/ req. info.

33 34	answer/ what's the best way to report or to show to tell where Egypt was			
35	S: draw a map	R		Inform
36	maybe a map/ maybe a map/ just one map	F		Accept/req.clarif
37	S: no	R		Negative
38 39	S2: one of where it is on a world map and one where it is close up	R		Inform
40 41 42 43	right ok good/ we might put it on a world map/ so we are able to put it into the context of where it is in the world/ if we were going to do that/ and we were going to do another map/ what would be the other map	**F** **I**		Accept/**extend** Req. info.
44	S: you could use coordinates say	R		Inform
45 46 47 48 49	well that might be some detail we could put on the world map/ we could have latitude and longitude and pretend we were geographers for a little bit of time/ or cartographers/ cartographers are what/ what's a cartographer	**F** I		Accept/**extend** Req. info.
some text missing				
59	what part of Africa is Egypt in boys	I	D	Req. info.
60	S: north	R	G	Inform
61	S: east	R	G	Inform
62 63	north east thank you/ Africa/ north east Africa/ and especially what would we show in that detailed map	F I	A D	Repeat/ req. info.
64	S: any bordering countries	R	G	Inform
65 66 67 68	OK/ we have to make sure we've covered/ the actual (place?) and its neighbours maybe/ what else will we show on that more detailed map that will tell us a little bit more about the land of the ancient Pharaohs	**F** I	A D	Accept/**clarify**
69	S: the cities	R	G	Inform
70 71	the ancient cities/ we'd have to do a bit more research on that one/ but that's OK	F	A	Accept

Episode 1: sequence 2

The sequence in Text 5.8 is significant in establishing the Nile River as an important factor in impacting on the lifestyle of Ancient Egyptians. This is a key concept for his students to grasp so his question: *what's something that possibly could have changed the shape of that area of the world,* enables him to guide their thinking. The map, as a further semiotic device, also provides a clue for the students. In lines 93-95, the teacher requests an explanation from the student who offered responses to his question. Whilst acknowledging the students' responses of *erosion* and *weathering* as being possible, this is not the answer to which JT is leading the students. He guides the students, through his questioning, to the preferred answer: *yeah the thing that dominates the map is the river isn't it/ the Nile river'* (line 114-115). He has thereby marked this as significant in the study of Ancient Egypt.

Text 5.8

Line No.	Episode 1: sequence 2	M	Prosp	Function
80 81 82	S: could you do a map of what it was like in that time/ like some of the countries might have had different borders or something	I	D	Suggest
83 84 85 86 87	yeah they might have/ very much so/ we could do a comparative analysis of the modern and ancient maps/ looking at the handout that you've got/ you've actually got a map of Egypt/ what would be something that perhaps would influence the change in maps/ how's our	R	G	Accept/extend
88 89 90 91	geographical skills/ what is the thing that would possibly change the map of Egypt from say 3000BC to what we are right now/ 2000AD/ what's something that possibly could have changed the shape of that area of the world	I	D	Req. info.
92	Ss: S1: lakes could have grown bigger or smaller	R	G	Inform
93	yeah why	**F/I**	A/D	Accept/req.expl
94 95	S1: because seas could have moved/ icecaps would have melted	R	G	Give expl.
96	possibly/ I don't think so/ but possibly	F	A	Reject
97	S2: erosion	R	G	Inform
98	erosion/what else	F/I	A/D	Repeat/req.expl.
99	S3: people going***	R	G	Give expl.
100	I'm not sure how that would change physical features	F	A	Reject

101	S3: yeah but like towns would have changed	R	G	Justify
102 103	true/ towns would have come and gone/ disappeared and gone/ disappeared/ been destroyed/ changed locations	F	A	Accept/extend
104 105 106	S: weathering weathering/ yes possibly/ when we look at that map of Egypt/ what is the thing that really sticks in your face	R **F** **I**	G A D	Give expl Repeat/accept Req.info.
107	S: the plates could have moved	R	G	Give expl.
108 109	well they move all the time/ but I don't think they move that much	F	A	Reject
110	S: no	R	G	Accept
111	S2: there's a big dam down the bottom	R	G	Give info.
112	there's a big dam down the bottom	F	A	Repeat
113	S: no it's the Nile	R	G	Suggest
114 115	yeah the thing that dominates the map is the river isn't it/ the Nile river	F	A	Accept
116	S: its shape/ they changed its shape	R	G	Give info.

The way in which JT guides and further develops his students' thinking through questioning is evident in Table 5.1. Key ideas are tracked in **bold** with arrows marking the question and answer pattern that is building information.

Table 5.1: Questioning pattern in Nile sequence

Teacher	Students
what **changed the shape** of that area of the world	**lakes bigger or smaller**
yeah **why**	seas moved, ice caps melted
possibly, don't think so	**erosion**
what else	people going**
not change physical features	towns changed
true	
	weathering
weathering, **what sticks in your face**	plates moved
don't think so	**big dam**
big dam	**Nile**
yes	**they changed its shape**

Analysis of the "busy clusters" in the lexical relations of this part of the sequence also serves to reinforce the way JT establishes the importance of this river to Ancient Egypt. Here, the main lexical string is about the **map of Ancient Egypt** because JT questions the students to see what is significant. The next main string is the **Nile river** in a meronomic relationship to the **Egypt** string.

Table 5.2: Lexical strings map of Egypt and Nile river

Line	Map of Egypt string	Nile river string
80	map of Egypt	
84	modern and ancient maps	
86	map of Egypt	
87	maps	
89	map of Egypt	
90	shape of that area of the world	
105	map of Egypt	
113		Nile
114	map	river
115		Nile

Episode 1: sequence 3

Of interest in Text 5.9 is the use of the questioning technique of cued elicitation: *it changes in what we call a (raised inflection),* (line 132). This discourse strategy provides the opportunity for the teacher to develop a detailed explanation about how the delta is formed (lines 135-145) and, later in the same sequence, explain why mud is deposited and not washed away (lines 147-154). An additional strategy employed at this time is the verbal explanation being accompanied by multimodal support. JT's detailed drawing on the board, as well as actions of spreading the fingers of his hand to compare this to description of the delta, assists his students to visualise a complex concept. Further discussion about the geography of modern Egypt introduces the Aswan High Wall Dam. He uses this discussion to make an explicit connection between the building of the dam and the change in the landscape. In a later lesson, JT sits with a small group of students and explains again how a delta is formed by drawing on a student's workbook.

Text 5.9

Line No.	Episode 1: sequence 3	M	Prosp	Function
131 132	right at the north end of the map/ it changes in what we call a...(raised inflection)	F	A	Extend
133	S1: tributary	R	G	Give info.
134	S2: delta	R	G	Give info.
135 136 137 138 139 140 141 142 143 144 145	delta/ thank you/ now a delta if you look at the map of/ I wasn't going to make it a geography lesson but I may as well while we are here/that's the coast line here/you'll see the river braid out into a whole lot of fingers/ what's happened there is that the river has slowed so much/ the land around it is so flat that the water starts to spread out and it starts to drop all the silt and debris that it is carrying in the water/ all the mud that is in the water/ and then it starts to build up these sort of islands and braiding streams as it spreads out across the landscape/ basically the river's dumping more and more mud in the / what sea	**F**

I | A

D | Repeat/accept **Give expl.**

Req. info. |
| 146 | S3: the Mediterranean | R | G | Give info. |
| 147 148 149 150 151 152 | Mediterranean sea/ right/ also it means that the Mediterranean sea just there doesn't have/ if you had a lot of currents in the ocean just of the river then all the mud would have been taken away/ but the Mediterranean has very few currents just there and as you well know/ the Mediterranean sea doesn't have tides either/ well it/ you | **F** | A | Repeat/accept/ **Give expl.** |

153	didn't know/ you do know /no/ OK so the mud isn't taken			
154	away/ so it just builds up/ that's one thing that has changed			
155	quite significantly since ancient Egyptian times/ that delta			
156	has actually grown further out into the Mediterranean sea			
157	over time/ what else do we notice about the Nile river in			
158	that map			

Episode 2

As in the previous sequence, students are engaged with the content of the lesson as evidenced in the interaction patterns of the lesson. Almost all students in the class were observed to have responded at least once during the lesson. (An example of the interaction pattern for another lesson is illustrated on page 254). The familiar pattern of teacher questioning continues and various students respond in longer exchanges. Student answers are accepted, but JT explicitly pushes the students to see the relationship between human settlement and the river by requesting further explanations of responses. This pattern enables the teacher to extend the students' single word or phrase responses with elaborations that make quite sophisticated connections possible. For example, in Text 5.10, the student provides a simple explanation as to why ancient societies build near a river: *the river was a good source of growth/ when people were still hungry and then all the animals would (gather??) there* (lines 209-210). JT acknowledges the possibility of the answer but asks a supplementary question that implicitly shows the relationship between food and water: *what did most of our early civilisations feed on* (lines 211-212), triggering a connection for one student in his response, *fertilisation*. This word is immediately repeated by JT and linked to *irrigation* which requires water. JT then takes the opportunity to show the shift in human lifestyle, from hunter and gatherer to farmer, requires a reliable water supply: *we're looking at areas of the world where man is moving out of just being a hunter and gatherer / following the birds around and gathering things/ he's actually starting to become sedentary/ which means what/ staying in one place/ so if he is going to stay in one place and build a town he needs a reliable source of water/ not only for himself and his family/ but for livestock'* (lines 218-224).

Text 5.10

Line No.	Episode 2	M	Prosp.	Function
200	what does it have in common with Egypt	I	D	Req. info.
201	S1: it's got lots of rivers	R	G	Give info.
202	S2: it's next to a river	R	G	Give info.
203 204 205	yes/ it's got actually two rivers/ it's a land with two rivers actually/ does it tell us something about ancient societies and rivers	F/I	A/D	Accept/clarify/ **Req. expl.**
206	S: they build near rivers	R	G	Give info.
207 208	yeah they sort of go together/ I wonder why/ can anybody come up with a solution why	F/I	A/D	Accept/**Req. expl.**
209 210	S: the river was a good source of growth/when people were still hungry and then all the animals would (gather?) there	R	G	Give explanation
211 212	that's a possibility/ what did most of our early civilisations feed on/ have you got the answer for us	F/I	A/D	Accept/**req.info.**
213	S: it was so dry that so they**by the river kind of	R	G	Suggest
214	why was the river so important/ for what	I	D	**Req. expl.**
215	S: water	R	G	Give reason
216	water yes	F	A	Repeat/accept
217	S: fertilisation	R	G	Give reason
218 219 220 221 222 223 224	fertilisation/ irrigation/we're looking at areas of the world where man is moving out of just being a hunter and gatherer/following the birds around and gathering things/ he's actually starting to become sedentary/ which means what/ staying in one place/ so if he is going to stay in one place and build a town he needs a reliable source of water/ not only for himself and his family/ but for livestock	F	A	Repeat/**give expl.**
225	S: doesn't dry up	R	G	Give reason
226 227 228 229 230 231 232	and doesn't dry up/and is able to irrigate his crops with/so he can grow more food/he grows more food he's got more **/ so rivers are pretty important/ so one thing that we've got to make sure that we put on our map about ancient Egypt are all the sorts of things that make it secure for the development of an ancient society/ so a good source of water/	F	A	Repeat/**extend**

A "busy cluster" in the lexical relations occurs in this Episode. In this cluster the teacher links the idea that once man stopped becoming a hunter and gatherer and became sedentary, he needed a reliable source of water. This is achieved linguistically through the various lexical relations. *Man* in the **man** string is in expectancy relationship with *hunter and gatherer* in the **hunter and gatherer** string. Also in the same string, *hunter and gatherer* is in an expectancy relationship with *gathering*. In the **sedentary** string, s*edentary* is in a synonymic relationship with *staying in one place* and an antonymic relationship with *gathering*.

Table 5.3: Lexical strings map of 'man', 'hunter & gatherer' and 'sedentary'

Line	Man string	Hunter & gatherer string	Sedentary string
221	man		
222		hunter & gatherer	
223			gathering
224			sedentary
225			staying in one place

A student, in the following line (line 225) adds the comment: *and doesn't dry up*, enabling the teacher to elaborate further on the importance of a reliable water supply in providing a stable food source. This is significant as this additional information is initiated by the student without being simply a response to a question from the teacher. This further supports the claim that the students are following the line of reasoning.

In Text 5.11, the request for an explanation: *what is the advantage of being surrounded by desert* (line 288) with the accompanying student response: *no one attacks you* (line 289*),* enables the teacher to provide a reason as to why Ancient Egypt was relatively secure from invasion. Again, JT articulates more in depth reasons why certain aspects about the location of Egypt allowed it to prosper as a great civilisation for over 3000 years. This assists the students to see a causal relationship between the reliability of a water supply and rich land around the Nile, as well as relative freedom from attack, and to recognize these as contributing factors to Ancient Egypt becoming a great civilisation.

Text 5.11

Line No.	Episode 2	M	Prosp.	Function
288	… what is the advantage of being surrounded by desert	**F/I**	A/D	Repeat/**req.expl**
289	S: no one attacks you	R	G	Give expl.
290 291 292 293	nobody could attack you/ it's very difficult to be attacked when the armies have to cross the desert/ without water in the hot and sand/ the whole disaster/ so the ancient society of Egypt would have been fairly secure	**F**	A	Repeat/**extend**
294	S: they would have come up the river	R	G	Give info.
295 296 297	yeah/ they could come up the river/ but it was relatively easy to defend/ the only way they were attacked was by which direction	**F** I	A D	Ack/**qualify** Req. info. Give info.
298 299	S: north from the sea/ yeah from the north/	R F	G A	Ack/extend

Episode 5: sequence 1

Of interest in this sequence, shown in Text 5.12, is the teacher's acknowledgment and justification of the student response *gems* (line 439), in which he notes the decorations used by the Pharaohs: *all you've got to do is look at any of the decorations that the Pharaohs used/ they must have gotten gems and gold and all that from somewhere/ Egypt's in the middle of the desert* (lines 440-443). The teacher is articulating reasons why certain opinions can be justified and this is an important lesson for young historians to learn. This is a clear example of the teacher appropriating and extending the student's response in order to model historical discourse. JT continues to encourage his students to think of other items for trade and further justifies his reasoning. He recasts *wood* as the more technical term *timber,* and justifies why the Egyptians would need to engage in trade to acquire this: *they would have had a lot of sand/ yeah/ a lot of mud/ they didn't have much timber so that is something else they mightn't have had in large quantities that they would have had to trade for* (lines 445-448).

Text 5.12

Line No.	Episode 5:sequence 1	M	Prospect.	Function
435 436	what sort of things would they have got from Africa do you think/ the southern part of Africa	I	D	Req.info.
437	S: baskets	R	G	Give info.
438	Possible	F	A	Ack
439	S: gems	R	G	Give info.
440 441 442 443	yes/yeah/ because Egypt/all you've got to do is look at any of the decorations that the Pharaohs used/ they must have gotten gems and gold and all that from somewhere/ Egypt's in the middle of the desert	**F**	A	Ack/**justify**
443	S: wood	R	G	Give info.
445 446 447 448	they would have had a lot of sand/ yeah/ a lot of mud/ they didn't have much timber so that is something else they mightn't have had in large quantities that they would have had to trade for	**F**	A	Ack/ **justify**

Episode 5: sequence 2

This final sequence in the lesson is marked by the significant number of reformulations by the teacher to the students' suggestions about the various things that will be studied in the topic. Through these reformulations key areas that the teacher wishes the students to investigate in the topic are constructed. Rather than the teacher listing what the focus questions will be, he has, through his feedback moves to student responses, extended and reformulated their responses thus engaging them in the investigation process. By acting contingently, through use of various discourse strategies, the focus questions and sub-questions the students have jointly negotiated with the teacher are most likely the ones he planned for his students to investigate. As well, JT's method of questioning clearly demonstrates how various suggestions about what would be interesting to investigate need to be placed within a systematic framework for investigation. This is an important aspect of historical investigation that the teacher has modelled for the students through the process of joint construction. The final overview of what will be investigated in the topic is written on the board as follows.

Figure 5.1: Writing on board by end of lesson

```
2. Where?                              1. When?
                                       4. Architecture

map      world
                                       3. How was Anc. Egy
         lat.                            ruled? governed?
         long.                           ───────

                                       5. What relationships did
Egypt-neighbours   North east             Eg. have with her
                   Africa                 neighbours?
Cities                                   -invasions?
Physical features                        -trade
                                         -alliances
                                         -change


6. Social/cultural
changes in A/E                         Physical env.


7. What it was like to
live in A/E?
  -food – how produced
  -work
  -commerce
  -education/learning
  -wealth
```

Examples of the discourse strategies, recasting and appropriating student responses to recontextualize the discourse that are illustrated in the reformulating sequence in Text 5.13, correspond to the sections on the board. These are number 6: Social/cultural changes in A/E: number 5: What relationships did Egypt have with…?,and the end of number 7: What it was like to live in A/E? seen in Figure 5.1. The commentary column in the text demonstrates the way in which the dialogue and the written text on the board work in tandem to jointly reinforce the content, and highlights the importance of context in learning.

Text 5.13

Teacher	Students	Commentary
	if there was like a **little community or a big community**	
yeah alright/ OK/ we can look at the/ this will make it sound more complicated than it is / but we can look at the **social/** we can look at/ we can look at the changes that took place during the period of Egypt/ what else"		**Recasting**
	We could look at **lifestyle**	
yeah/ that's probably/ we could ask a simple question/ we could ask the question **what was it like to live in Ancient Egypt**/ and sub-questions to divide into that would be something like		**Recontextualising** **Lifestyle** is too general a term. By recontextualising to a focus question, **What was it like to live in Ancient Egypt?**investigation of sub-topics is made possible.
	How did **culture change**	
yeah/ we could come into that one/ **what are the relationships**/ you could add that there		**Recontextualising** Adds **change** to list under **What relationships did Egypt have?**
	What they **ate**	
OK **food/** we can see what they ate and how they grew it/ we know the Ancient Pharaohs used to go for hippo hunts in the Nile just for the fun of it		**Recasting**

The final reformulating sequence that completes the board overview, illustrated in Text 5.14, adds some final points to **What it was like to live in A/E?.** JT recasts student responses to *education/learning* and extends this by adding *money and trade.* He immediately recasts his own example to a more technical term *commerce,* and then explains what is meant by this term. Through this two-way example of creating a technical term then unpacking it with everyday examples, the teacher has again made his thinking process apparent for the students. Martin (1990) asserts that this strategy of starting with common-sense knowledge is a useful bridging technique to technical understanding.

Surely it is the links between 'commonsense' and 'theoretical' concepts, the links between 'ordinary language' and 'theoretical language' that make learning possible – whether in school or out – and it is the ability to move back and forth across that continuum that characterizes thinking at any mature stage.

(Britton 1979, p.31 cited in Martin 1990, p.84)

Text 5.14

Teacher	Students	Commentary
	Horoscopes	
	Piracy	
	Their number system	
what could be/ could we put that under a whole sort of um/ we'll just call it **education/ learning**/ for **money and trade**/ we just put **commerce**/ in other words/ how did the Egyptians buy and sell things/ did they /you know/ the ordinary things that they had to trade/ how was that carried out/ the sort of system they used/ marketplaces etc		**Recasting** All three student responses are recast as **education/learning** which JT further extends to money and trade then recasts as **commerce.**

JT continues to appropriate and recontextualize student responses to more appropriate historical language as the final focus questions are considered. This is illustrated in Text 5.15. A new focus heading is added: **Physical env.** and this triggers **physical features** being added to the focus question: *where?*. Also added is a new focus area, number 3: **How was Anc. Egy ruled? governed?**

Text 5.15

Teacher	Students	Commentary
	What was the um **weather** like	
yeah/ we haven't looked at that at all have we/ we sort of mentioned it under the map didn't we/ but we didn't actually highlight it/ **physical environment**		**Recontextualising** Writes on board **Physical env.**
	Politics and how the ~~government~~	
how was ancient Egypt governed/ is that Ok/ does that come under that		**Recontextualising** Writes focus question on board **How was ancient Egypt ruled?governed?**

The two final feedback moves in which the teacher extends the student responses completes the lesson with discussion leading to the final sub-question added to the board wealth:

*Egypt was obviously a very powerful nation/ and a very wealthy one/ you might investigate how they got their **wealth**/ what it was built on.*

Finally, JT recaps the lesson through a "metacomment" which summarizes all the points covered on the board and which become the focus questions for the topic. He points to the focus questions on the board as they match his dialogue. By drawing on other semiotic meaning making systems, that is, visual and gestural cueing, JT reinforces the interrelationship of all the focus questions to the whole historical investigation. This visual/ aural cueing is represented in Table 5.4.

Table 5.4: Visual/aural relationship

Teacher dialogue	Focus question written on board
we've established that there is a whole series of other questions we can relate to / how it was governed	3. How was Anc. Egy ruled? governed?
what sort of architecture had it developed	4. Architecture
what relationships it had with other countries/ remember when we look at that we'll discover what they learnt from others and what they taught other nations/ who they invaded and who they were invaded by/ who they traded with and what they traded/ the alliances that they established and the changes that took place in Ancient Egypt over 3000 years existence	5. What relationships did Eg. have with her neighbours? -invasions? -trade -alliances -change
we'll have a look at its society and culture/ its religions /the way the society was organized/ the fact that in Egyptian times there were varieties of levels of social status from Pharaoh to peasant/ just ***	6. Social/cultural changes in A/E

I suppose as well/ and what it was like to live in ancient Egypt/ we'll look at things like food/ work/ commerce/ learning and wealth.	7. What it was like to
	live in A/E?
	  -food – how produced
	  -work
	  -commerce
	  -education/learning
	  -wealth

Part 2: additional strategies to develop understanding

As the lessons in the Ancient Egypt unit unfold, JT uses the same discourse strategies identified in the Induction and Macrogenres. Different aspects from the focus questions are elaborated in each lesson through teacher /student exchanges. The characteristic questioning pattern with repetition, recasting and appropriation of student offerings being recontextualized into historical discourse continues to be important. In Part 2 of this chapter, additional strategies employed by JT to develop students' understanding are discussed. Part 2 consists of four sections that draw on excerpts from four lessons in the rest of the unit on Ancient Egypt. Section I demonstrates the use of implication sequences to create a chain of reasoning (*Lesson 3: The physical environment*); Section 2 considers the strategy of performance to consolidate understanding (L*esson 7: Pharaohs and life in Ancient Egypt*) and Section 3 examines the use of analogy as a way of linking familiar with new information (L*esson 13: The role of the Pharaoh*). Lexical relations and transitivity analysis are also briefly discussed in this section. Finally, in Section 4, the reinforcement of learning through the use of other semiotic systems of visuals and gestural modalities is also discussed (L*esson 14: Egyptian army* and *Lesson 17:Constructing a pyramid*). Reference is also made to the teacher interview. This explains JTs rationale for why he uses analogy to explain concepts and the reasons why he included a play reading in his unit. Other inclusions are excerpts from student interviews commenting on how helpful a play reading was in clarifying their understanding of Ancient Egyptian society.

Section 1: Creating a chain of reasoning: implication sequences

The Physical Environment (lesson 3)

Through creating a chain of reasoning, JT clarifies his students' conceptual understanding about why the Nile River floods This can be shown linguistically through tracking the implication sequence, shown in Table 5.5.

Table 5.5: Implication sequence on Nile river

Turn	Teacher	Students	Implication sequence
59	geographically I'm talking about/ climatically/ anybody got a clue why it was so predictable		monsoon rains hit in central Africa (source of Nile) dump water in highlands & snow melts on mountains RIVER RISES
60		because that was when the central rains happened in central Africa	
61	right it was when the rains occurred in central Africa/ which was the source of the Nile/ when the **monsoon rains hit** central Africa it **dumped** all the water in that area/ up in the highlands of central Africa/ it didn't rain in Egypt/ the Egyptians didn't know about this/ suddenly their **river would start to rise**		
62		also when the **snow melted** on top of the mountains/ and ran down	
63	well snow's pretty/ yeah/ right		

JT also provides explicit instructions in a procedural recount on how paper is made from papyrus, illustrated in Table 5.6. He also refers to personal experience from having travelled in Egypt. This adds interest for the students and gives credibility to the teacher's recount. Later in the lesson, the students work in small groups on various questions. At one stage, JT sits with a group and demonstrates how to make paper from a papyrus reed.

Table 5.6: Implication sequence on making paper from papyrus reeds

Sect	Teacher	Implication sequence
175	papyrus is a very early form of paper /and they used to **collect** the papyrus reeds from around the delta/ because it grows there/ they'll **split** it/ **weave** it/ **hammer** it/ once they've woven it/ they'd hammer it/ and that would **make it a firm sheet of paper**/ in actual fact if you can find some papyrus you can still do the same thing to make paper even today/ and when/ if and when you go to Egypt/ you can actually go to the marketplace/ there are people in the marketplace that actually make their own papyrus and draw copies of these sorts of things that you can buy as a souvenir/ they are good copies too	collect reeds split weave hammer make sheet of paper

Section 2: Consolidating understanding through performance

Pharaohs and Life in Ancient Egypt (lesson 7)

At this stage in the unit of work, JT hands out an assignment to be completed in class over the next three weeks. It consists of students presenting a short, scripted, three scene play on Ancient Egypt and the Pharaohs; answering questions related to the content of the play; and finally, writing a magazine article on Ancient Egypt using information from the play and other sources. (Appendix 17). This task, particularly the play, marks a shift from the previous question and answer discussion format of the lessons, to the employment of a different modality. The students are responsible for organising the roles, discussing how the play will be performed and rehearsing for presentation. In doing this they learn from the text about the roles of the Pharaoh, the Vizier, Pharaoh's son, scribes and embalmers, religious beliefs, taxes; irrigation, use of rafts for floating stone from Aswan to build pyramids, treatment of slaves, entertainment, and law and order.

In the student interview conducted at the end of the unit of work with one group of three students, they all agreed the play helped them learn "a bit about the Pharaoh's life"(Yarron). A second group reported the play "helped with pronunciation of words, the jobs of the embalmers and the work schedule" (Rob), "helped with understanding" (Jeremy) and "gave an insight into their life" (Andrew). In the end of term written examination on Ancient Egypt, students were asked to read a source and then answer the question: *What information can we, as historians, gather about Ancient Egyptian life?(at least 3 pieces of information).* JT commented that the exam overall was a difficult one, requiring a comparison between Ancient Egyptian and Spartan government but students, overall, were able to do this. He stated his belief that the time spent on the play, with its focus on life in Ancient Egypt, contributed to their success in the exam.

In providing his rationale for using a play as a strategy, he states in the second interview:

> *yeah they tried to live the experience / and it's interesting that in their exam*
> *when they were looking to use supportive evidence that actually wrote you*
> *know as we did in the play you know that we've/ for example I asked them one*
> *question we got a h/ there was a picture from a source and we asked the*

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> *question how important are these sorts of pictures to an historian's study and*
> *on of the b/well several of the boys wrote that as we learnt from the play that*
> *the Pharaoh often told the scribes what to write so he looked good so this*
> *painting on the wall may be a misrepresentation of the Pharaoh that it may be*
> *in actual fact just / not that they said this/ but maybe just propaganda the*
> *Pharaoh trying to make himself look good /so they did actually pick up the fact*
> *that you know that that not everything we're told is true.*

Section 3: Making links through analogy

Analogy as a discourse strategy has been used on a number of occasions by the teacher. In the Induction genre, the detective analogy was woven through both lessons as a way of explaining the role of an historian. Through linking new concepts to something familiar, the teacher provides concrete examples, thus supporting students to make important connections. In his first interview, JT explains why he uses analogies as a means of explaining complex social behaviours. He states:

> *but quite often I'll use school analogies to show them structures so that they*
> *can actually make connections/ um and that they should be able to relate those*
> *connections from one environment to another so that when they look at Egypt*
> *they can say yeah I can understand how that structure works now and what*
> *they reacted to and then we move to Greece and they think oh well it's a*
> *different environment but there's still some/ there's still those interrelationships*
> *between people and plus there's the interrelationship between them and their*
> *environment which influences their behaviour.*

In the lesson following, analogy is again used as a strategy to support students' conceptual understanding.

The role of the Pharaoh (lesson 13)

The focus of this lesson is to establish the concept of the Pharaoh's authority. This introduces a key notion for students about differences in political organisations and the effect of these differences. This understanding is fundamental for any historical study, as stated by JT in the first interview.

Through questioning and analogy, JT establishes the relationship between the Pharaohs and the gods and their ultimate authority. The way in which this concept is established is illustrated in Text 5.16. In the lesson, the focus questions *who, what* and *why,* have been established earlier. Turn 20 focuses on *where* in response to the question: *where did the authority of the Pharaoh come from.* A commentary with each section shows how the concept of authority is established.

Text 5.16

Turns	Teacher	Students	Commentary
20	where did the authority of the Pharaoh come from		Focus of questions changes to where – following the usual pattern of focus questions established in the first *Egypt* lesson. Turn 1 covers *who*, turn 3 *why* and 6 *what*.
21		god like spirit	
22	Ok if for example we compared the government of the Pharaoh we/ so OK the Pharaoh/ the Pharaoh is the legitimate ruler of Egypt **because** he was descended from		JT checks his students are clear about the point that the Pharaohs authority came from the gods by cued elicitation. The relationship is marked through use of causal connective *because*.
23		the gods	Student shows clear understanding on this point
24	the gods right/ so the gods gave the Pharaoh his authority to rule/ how does that compare to the government today/ who gives the government the authority today		JT uses comparison between today's society and Egyptian society. He makes the point about students' needing to realize differences in various political organisations as a fundamental understanding in studying History. In his interview he says, "if you look at government and government systems and political theory the first question you've got to ask is where does sovereignty lie...if you use the word authority..." He uses analogies for the students so they can make connections.
25		the people	
26	ok/ so there's a distinct difference here/ the Pharaoh's actually claimed the right to rule/ they are related to or closer to gods to gods/ so it's a pretty unquestioning sort of authority/ so if you actually disagreed with the Pharaoh		This comment establishes the relationship between the Pharaoh and the gods. Use of cued elicitation acts as a check to ensure students are following the line of reasoning.

27		you'd be disagreeing with the gods	Students show they understand the link
28	you'd be virtually disagreeing with the gods/ yeah/ a wicked? sort of legitimacy isn't it / to claim that sort of relationship/ so he would have expected his people		Implication made that because of the *god authority* the people must comply. This idea is captured in the term *legitimacy*. Cued elicitation continues as a means to check student understanding and also allows co-construction of the concept with students.
29		to obey	Students show still following the teacher's line of reasoning
30	yeah/ to obey his every word/ cause that word was all/		Cued elicitation to check and co-construct reasoning.
31		god's authority	This point reinforces the absolute power of the Pharaohs because they were descended from the gods. JT has completed a loop in the questioning to establish this concept.
32	god's authority OK		

The linguistic tools of lexical relations and transitivity analysis also reinforce the concept of authority as the focus of the lesson. Lexical relations analysis demonstrates how relationships are developed through key words. Each string relates to discussion around the duties of the Pharaoh and his authority. The majority of lexical relations are created through repetition with **Pharaoh**, as the dominant string appearing throughout the whole excerpt. The concept of authority is established through the strings **responsible, god, authority, government, religious ceremonies, symbols**. In turn 31 the student response of *god's authority* joins the strings **god** and **authority** together through an expectancy relationship.

A transitivity analysis of the lesson, illustrated in Table 5.7, also shows the high proportion of *relational* processes (those processes that relate a participant to its identity or its description). This is consistent with the focus on establishing the relationship with the Pharaoh as being the legitimate ruler of Egypt and having the authority of the gods.

Table 5.7: Transitivity summary on Role of Pharaoh

Clause type Major clauses = 76	Number	Percentage (rounded to nearest percent)
Material	13	17%
Mental	15	19%
Relational Attributive Possessive	19} 1} =20	26%
Relational Identifying Possessive	16} 2} = 18	24%
Existential	1	1%
Verbal	9	13%

Section 4: Reinforcing learning through other semiotic systems

The following lesson is about the Egyptian army and the different types of soldiers it used. JT changes the balance in his lessons from verbal being the major semiotic mode, to physical actions being used to demonstrate what was happening in the pictures in the handout. He is 'bringing alive' for the students the two dimensional pictures in their worksheets by triggering their imaginations to visualise how each solider would move. This assists the students to relate JT's actions, modelling how different soldiers used their weapons, to their purpose in the army.

Egyptian Army (lesson 14)

In this lesson transcribed in Appendix 18, the students are handed worksheets (Appendix 19) with pictures and questions about the types of soldiers in the Egyptian army and their different functions. Instead of standing at the front of the room, asking questions and writing on the board to build key concepts and relationships as in previous lessons, JT sits in the middle of the room with the students sitting around him. Of interest in this lesson is the use made of pictures and physical actions to demonstrate usage of various weapons. He does this to support the students in understanding the various functions each type of soldier performed and, therefore, why different weapons were appropriate for each.

The teacher begins the lesson by reading from the worksheet. He checks the students know what a *footsoldier* is as he reads the introductory paragraphs. In paragraph 4, which refers to chariot soldiers, JT asks the students: w*hat's the advantage of being a chariot soldier.*

This is a higher order question requiring students to reason. No previous discussion about this has occurred. Students respond with a variety of plausible reasons: *faster than the rest; more protection; you can get your horse if you had to run away; use your horse to trample over people; you wouldn't get tired.* JT chooses to respond to: *had to get away* and introduces the term, *outmanoeuvre*. This term is later used (section 56) in reference to using shields which have spears stuck in them. That is, the concept of manoeuvrability, established in the discussion about chariots, is transferred to another context.

Episode 2 focuses on the worksheet question numbers 2 and 3: w*hich of these weapons do you think might have developed from Egyptian farming tools? Which weapons would also be used for hunting animals?* The pictures relevant to this part of the discussion are shown in Figure 5.2.

Figure 5.2: Image of soldier 1 and 2 from worksheet
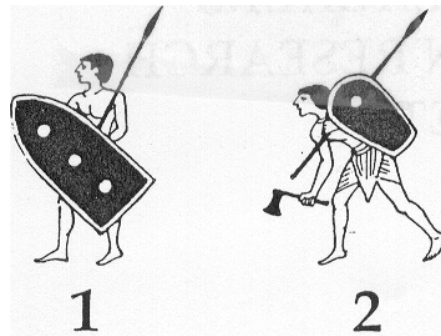
Students quickly come up with a list by referring to the worksheet weapons listed in question 1 and illustrated in Table 5.8. Here students are being required to use inferential skills to provide plausible reasons.

Table 5.8: Evolution of weapons

Farming	Hunting
Scimitar	
Sickle	Spear
Battle axe	Swords
Shovel	

JT's questions in Episode 3 are designed to encourage his students to think about the role of frontline soldiers in the army and consider what would be the most appropriate weapons for

them to perform this function. Through questioning he guides the students to understand the relationship between weapon and role. This is a critical concept in this lesson and one that transfers to study in the next topic, *Ancient Greece*. In Text 5.17, the commentary column discusses how JT achieves his goal.

Text 5.17

Turn	Teacher	Students	Comments
38	alright we'll go across the top and to follow these in order/ thank you gentlemen/ character number one is obviously a soldier/ you can notice there he had a long shield/ a body shield protecting him		Reference to worksheet figures. Cued elicitation through raised inflection. Students to complete the sentence. Students to refer to picture for clue.
39		from arrows	
40	from arrows and from other		Cued elicitation. Teacher implies a further response is needed.
41		other spears	
42		where is this	
43	other spears/ we would expect to find him at the front line of the army so he would/ **because** of his kind of protection/ you will notice that the next character has a similar type of weapon/ he has a spear/ **but** he **also** has an axe and you'll notice his shield is **significantly** smaller / alright so we would expect this character not to fight with his spear/ OK **so this guy carried his spear to do what with**		Explicit reason given through causal connective *because.* Contrastive connective *but,* additive connective *also* and the adverb *significantly,* signal the differences in role is due to the additional weapon. Question requiring students to give a reason.
44		throw it	
45	throw it whereas the other guy would hold onto his spear/ ok / a different sort of soldier/ **so this guy throws his spear designed to do what/**		Key difference between use of spears for two different types of soldiers established. Question to establish role of soldier 2.
46		to kill	
47	not necessarily to kill		
48		to scare people off	

49	Maybe		
50		to injure them	
51		start a war	
52		scatter groups	Teacher accepts this answer.
53	yeah **how does he do that with a spear**		Teacher requires student to elaborate on how this action results in scattering the enemy.
54		he'd guide it into he air and like scatter them	
55		****	
56	***mind you killed them if he hit someone / and he would be very unhappy/ but more often than not that wouldn't happen because other people had shields as well/ those spears were designed/

if they didn't hit someone and kill them/ which is what they were hoping they'd do/ they **stick into** their shields making their shield heavier and more difficult to use in self defence/ so once they got/ if he got his spear into his shield he's got the advantage/ the guy with the big shield/ he doesn't have a manoeuvrable **/ then he **comes in** close quarters with a small highly mobile shield/ **bashes** his shield aside/ even **uses** the spear stuck in it for leverage/ and **hacks** him with his axe | | Teacher elaborates on his question from section 53 and shows cause and effect through an implication sequence. This explanation is accompanied by actions. The students follow JT's actions as they listen to his explanation. This dual modality creates "message abundancy" and provides additional support to help the students understand the function of soldier 2.

Sequence of actions in the explanation
cause   *effect*
spears stick into shield   shield heavier, more difficult to use in self defence

comes in close quarters   bashes shield aside, uses spear as leverage, hack with axe |

The next discussion revolves around pictures of soldiers 4 and 5 illustrated in Figure 5.3.

Figure 5.3: Image of soldier 4 and 5 from worksheet
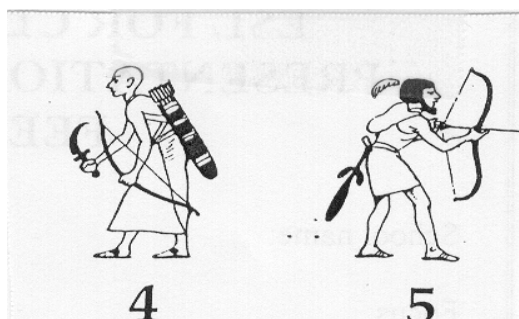
JT asked the students: *where would these people be in battle?* and: *why has he got hand weapons?* The purpose of these questions is to once again make explicit to the students the link between the weapons used and the function of the soldier.

Text 5.18 shows the discussion about the function of character 8, shown in Figure 5.3, and follows the same pattern used with other images, of establishing why different weapons were used as used with previous figures. JT provides extra information about the role of character 8. Also of interest is the additional information provided to support students to make comparisons about how warfare was carried out among different ancient civilisations.

Figure 5.4: Image of soldier 8 from worksheet

Text 5.18

Turn	Teacher	Students	Comments
79	again he's designed to clean up after the other guys with their shields have moved through/ so he's moving in much more mobile/ comes in throws his stick at long range hoping to knock somebody off / gets in amongst the enemy and hopefully		Teacher explains purpose of soldier. This accompanied by physical actions to demonstrate what the soldier did.
80		if you've got a knife you could get	
81		ha ha	

82	yeah/ yeah well the Romans solved the problem of getting their own spears thrown back at them by having soft steel in the**		Teacher provides additional information from another historical context.
83		as soon as they hit they would break	
	and then they would bend, they'd actually bend/ the Romans when they threw a spear at their opponent/ it stuck into their shield / in trying to get it out you'd almost always bend the shaft / it wasn't worth it/ they were not all metal it was wood too and it hit the ground and bent also/ so they never got their spears thrown back at them whereas the Greeks did/ the Greeks threw javelins/ if a javelin missed you/ you picked it up and threw it straight back/ so everybody learnt from their experience/ OK		The information about the Romans is further developed with information about the Greeks. The teacher is again showing how the different civilisations responded to the same event ie warfare.

At the completion of discussion about the characters, JT uses the strategy of "constructively recapping" the key concept that soldiers in the army performed different functions, and that these required different weaponry. This is illustrated in Text 5.19.

Text 5.19

Turn	Teacher	Students	Comments
86	so all the people in the army had different functions/ they would have been used at different times for different purposes and their weapons / the sorts of protection they have/ reflect that/ number seven is obviously a guy who is carrying a shield and some sort of axe/ again he's designed to fight at close quarters and also they used the shield/ he uses a shield that is not as long / the shield as number two or number one/ they used the shield to um** their opponents aside as well/ number one with the chariots as well		This summarizes all the previous information.

The teacher recaps the point that different weapons and armour supported the functions of different soldiers. Students follow by looking at the worksheet and visually noticing the differences as they are mentioned. |

A lexical relations analysis reveals the major strings in the lesson relate to the weapons used by different soldiers, however the word *weapon* appears only four times. Words such as *shield, arrows, spears, axe, bow and arrow, staff and mace, throwing stick, curved sword* appear instead in a hyponomic relationship to *weapons* with each of the weapons in a

co-hyponomic relationship to the other. Almost all of the lexical strings use repetition of the word as a cohesive device. The teacher's use of repetition, in combination with the pictures, reinforces for the students the significance of each weapon.

A transitivity analysis, shown in Table 5.9, also demonstrates that the focus on the lesson is the use of different weapons by various soldiers. This is captured in the very high percentage of *material* processes that show action, with the *actors* in the *material* processes being the different soldiers.

Table 5.9: Transitivity analysis Egyptian army lesson

Clause type Major clauses = 111	Number	Percentage (rounded to nearest percent)
Material	69	60%
Mental	14	13%
Relational Attributive Possessive	11} 8} = 19	17%
Relational Identifying	9	8%

The students were actively engaged in the lesson. This is evident in the interaction pattern illustrated in Figure 5.5. A number of elements could have contributed to the high level of interest in the lesson:

- the experiential content of the lesson

- the teacher's positioning himself in the middle of the room

- sitting with a relaxed pose and talking about the worksheet in his hand

- referring to various pictures on the page

- physically demonstrating actions, such as, archers in the chariots needing room to extend their arms.

Each student is represented by a □. The number of crosses represent the number of times the student speaks in the lesson. The teacher, positioned in the centre of the room, is represented by a black box. At times during the lesson students were silent as they wrote

answers from the worksheet. As seen in Figure 5.5, the majority of the class was involved in at least one exchange

Figure 5.5: Interaction pattern in lesson

```
   □      □     □    □    □
         xx    xx   x   xx

  □ □ □  □     □   □   □ □
  x  xxx xx    xxxx  x
        ■ Teacher

  □ □    □ □ □   □    □
  xxx  x   x      xx   xx

         □
        xxx
```
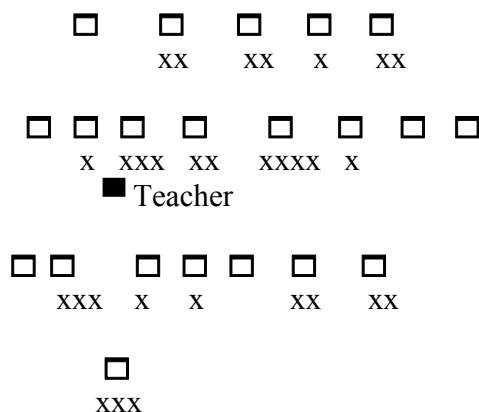
Constructing a pyramid (lesson 17)

Using visuals and demonstrations as a strategy to construct the teacher's explanation, is again evident in the lesson on how pyramids were built. The students had been set the task of describing how to build a pyramid. They had to plan the steps in the process, demonstrate what had to be done and how it would be done. They were to illustrate instructions and the plan, where possible. The students worked independently while the teacher walked around the room. A number of students asked additional questions for clarification about the task. The teacher stressed the need for the information to be historically accurate. Students had handouts to which they could refer. After several minutes the teacher recalled the class to explain how pyramids were levelled, as he realized a number of students were confused about this aspect.

JT assists his students to understand the difficult concept of how the land was levelled before the pyramid building began. Multimodal support is a key strategy used by JT to achieve this. In the lesson, he provides a number of diagrams, refers to the picture in the student handout, "culturally constituted tools" (Claxton 2002) and uses gestures to explain the process of levelling a pyramid.

The teacher explains, in Text 5.20, how Egyptians levelled the ground before building the pyramids. He refers to modern equipment *theodolites* first, then explains that water was
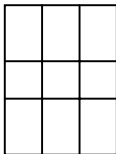
used in ancient times for the same purpose. The key concept for the students to understand is that water always has a flat surface. The cued elicitation (turn 1), encourages the students to co-construct the explanation. The student response: *that's as long as the water canals are connected,* demonstrates this student already understands the process.

Text 5.20

Turn	Teacher	Students
1	you've got to remember the Egyptians didn't have theodolites and they're modern surveying instruments that we look through / what they did have was water and water always found/ created a flat surface regardless of what/ if you take a bowl of water and you tip it the water level	
2		stays up
3		sir that's as long as the water canals are connected

JT acknowledges the student response (turn 3) and establishes the relationship between water and the canals by drawing a 'birds'eye' view grid on the board, so the students understand. This visual cue enables him to make the connection clear for the students, and he points to it as he gives the explanation orally. As well, the recasting of *grid marks – channels—little channels*, creates a lexical link that allows the recontextualising of the grid marks to the context of pyramid levelling. The cued elicitation: *that is going to be* and student response *flat*, demonstrates the students' are following the line of reasoning. Text 5.21 illustrates the relationship between the dialogue and visual text.

Text 5.21

Turn	Teacher	Students	Commentary
4	yes yes/ now/ not a problem/ imagine this is the area of the pyramid you're building/ the grid marks /OK here/ are channels/ OK/ little canals that now if you look at that illustration you know where it is/ they're all interconnected/ so when you fill them with water you know/ because water finds its own level/ that and that is going to be		JT uses visual support to explain. He refers to the canals first as making *grid marks* (draws this on board) then *channels* then refers to them as *little canals.* The word *interconnected* relates back to student comment in section 3. The diagram on the board appears as: Top down Birdseye view
5		flat	

The exchange continues with JT asking the students to refer to their worksheet (Appendix 20). Using the visual cues as support, JT begins to create an implication sequence for the students, with the *material* processes highlighted in bold in Text 5.22. Before he starts however, he checks the students are following his discussion: *OK you with me.*

JT provides further visual support by drawing a cross-section to show how water is levelled. He uses an example of excavating to 3 metres to provide a concrete reference for the students. The students are following his line of reasoning created through the implication sequence (Section 7). JT then introduces the term *parallel lines,* with which students are already familiar, and draws on their prior mathematical knowledge in basic geometry to illustrate the process.

Text 5.22

Turn	Teacher	Students	Commentary
	so what they then did/ if you very carefully at this illustration/ there's three men **holding** sticks with adjoining strings/ ok you with me/ now if you imagine that's a bit of string/ **joined** by two sticks/ the sticks **touching** the surface of the water/ then you start **to excavate** underneath that piece of string and here/ at the point down to here/ and say for arguments sake that's three metres/ OK/ so we decide you're going to **dig down** three metres/ when you get across here and you start digging down and you dig from that string to that there three metres/ what you're doing if you join that up you've got a perfectly		JT refers to the drawing on board. Implication sequence 3 men hold string string joins two sticks sticks touch surface of water s excavate underneath string dig down 3 metres
7		flat	Students following line of reasoning.

8	flat surface/ it mirrors that level/ simple/ that height there is equal to that height there/ because they're two parallel lines/ these are all equal/ basic geometry/ Egyptian geometry/ clever fellows weren't they		JT refers to diagram.

In Text 5.23, JT clarifies one student's thinking by referring to a familiar item, a *spirit level*, which he points out, uses the same principle.

Text 5.23

Turn	Teacher	Students
9		how do you ** (reference to water)
10	all you've got to do is pour it straight in	
11		*****
12	when you go home see if your dad's got a spirit level	
13		I've got one of those
14		oh yeah

Students then return to individual or pair discussion to complete their task. JT continues to walk around the room. At one point he explains to two students how wedges were used to cut rock. Again he uses a drawing to illustrate the concept, shown in Figure 5.6. He also introduces the technical term *bevilled* to describe this process.

Figure 5.6: Drawn image on board

Drawing to support an oral explanation is an important additional strategy used in this lesson. Through this strategy, meaning is constructed both linguistically and through other semiotic means (visually and gesturally).

Conclusion

In this chapter, it can be seen that JT uses similar strategies as those identified in Chapter 4 to support his students in their study of Ancient Egypt. The discourse strategies established in the Induction genres are shown to be recycled in later lessons. In Section 1, key concepts about the topic have been reinforced through increasing the prospectiveness of questions that extend student's understanding. Dialogue is also transformed into (written) focus questions to be researched.

Section 2 details other strategies not previously discussed in detail. These are: developing an explicit chain of reasoning established through implication sequences; use of analogy and drawing on student's prior experiences to make links to the concepts being established; use of visuals such as diagrams, pictures and actional gestures as additional semiotic systems to create "message abundancy" with the information being presented; and finally, performance, to enable students to make connections with key ideas through presenting a play containing key information. By drawing on a number of semiotic systems to provide various teaching strategies, JT has provided a strong learning environment for his students. Students have been supported to develop the skills to investigate other topics in the course with confidence.

CHAPTER 6

Conclusions

We should so live and labor in our times that what comes to us as seed may go to the next generation as blossom, and what came to us as blossom may go to them as fruit.

Henry Ward Beecher (1813-1887)

Summary of research

The purpose of this research has been to contribute to understandings about a socially constructed theory of pedagogy that can inform classroom practice. As has been previously stated, a sociocultural theory of learning is based on the premise that the activity of education is one that is enacted within a social environment that is essentially dialogic in nature. Central to this research is the notion that students can be supported within a classroom environment to appropriate the discourse and methodology of a subject discipline through various scaffolding strategies that will enhance student learning outcomes.

A significant outcome of this research has been to establish a distinction between scaffolding at a macro level consisting of a planned, "designed-in" approach to a unit of work in a subject discipline, and contingent scaffolding that operates at the micro level or 'point of need'. Further to this has been the identification of discourse strategies and other semiotic systems such as visual, gestural and actional cues, and an examination of the ways in which they function in the discourse to support student learning in the local and immediate context. These are the pedagogic tools of the teacher, the articulation of which contributes to knowledge about effective teaching and pedagogic practice. Outcomes from

this research support the argument that any theorising about what constitutes scaffolding strategies needs to be socially situated within a theoretical framework that recognizes the essentially social nature of learning and takes into account the elements that influence the "activity", the goal of the lesson and the "operations" that realize it.

As stated in Chapter 1, there have been two major areas in this study. The first was the role of the teacher in facilitating conceptual understanding and higher order thinking through strategies that 'scaffold' students' learning. This has required an explicit 'unpacking' of what this term means in practice and this has been achieved by using linguistic tools from SFL theory to analyse the classroom data. The second focus was the way in which the process of education is mediated by discourse and the ways in which learners appropriate the discourse of a subject. This research into these two areas has drawn on compatible theories from different social and behavioural sciences, in order to contribute to discussions about pedagogic theory. They explore the social nature of learning, the role of language as a social semiotic that mediates meaning and the classroom as a site of activity. By articulating key tenets that describe teachers' intuitive understanding of effective teaching methodology, I argue that it is possible to influence, through professional development opportunities, teaching practices of both new and experienced teachers. As in any teaching situation, whether with children or adults, once the components of any action and how they relate to each other have been articulated, it then becomes possible to draw on this shared experience in future dialogues.

Findings

"Designed-in" scaffolding

A major finding that can be drawn from this research is the importance of the teacher having a purposeful goal for the specific subject and a definite plan for teaching the content that explicates those goals. Through this, an environment is created in the classroom whereby tasks are designed that are situated within what Mercer refers to as the students' 'intermental development zone' (Mercer 2000). By teaching 'within the zone' through the application of a "designed-in" scaffolded approach, the classroom teacher supports students

as they develop content knowledge of the topic and skills related to the subject being studied.

This "designed-in" approach is evident in the data through the planned design of the introductory lessons that form an Induction genre. Through this Induction genre, the classroom teacher establishes the key concepts of time, change and causation, central to historical knowledge, and develops with the students a methodology to use in new contexts that enables them to draw conclusions and evaluate information and evidence. These are then reinforced in the following two introductory lessons on Egypt which form a Macrogenre, and which consolidate students' conceptual understanding about the nature of historical study. That is, there is a resonance within the Macrogenre on Egypt with the key ideas established in the Induction genre (as demonstrated in Chapter 3), with the relationship of the Macrogenre genre to the Induction genre being one of elaboration.

A linguistic description of contingency in action

Teachers respond contingently to students' needs as a lesson unfolds. The need for contingent scaffolding is determined in many ways: for example students asking questions; demonstrating confusion or misunderstanding in responses; requesting help with tasks; or by the teacher taking the students further and building on responses. Both discourse strategies and multimodal strategies are utilized to provide contingent scaffolding in the unplanned, moment by moment exchanges in the classroom. A linguistic description of contingency in action has been made possible in this research through the identification of a number of discourse strategies which recontextualize students' discourse in order to both support conceptual understanding and at the same time apprentice students into the discourse of the subject. The following strategies and their purpose in the discourse have been identified:

- repeating, recasting and appropriating student's language to develop technical vocabulary and to transform dialogue into written focus questions to be researched;

- increasing the prospectiveness of questions to extend or reformulate student's reasoning and create more complex connections and engage them in the investigation process;

- cued elicitation to encourage students to jointly construct ideas and also check they are still following the teachers' line of reasoning that is being developed;

- paralleling through analogy, examples and drawing on students' experiences to exemplify and 'concretize' key concepts;

- performance to involve students experientially in developing deeper understanding of the topic;

- "metacomments" to create "conceptual hooks" that summarize key concepts that have been established;

- use of implication sequences to create chains of reasoning;

- use of key words in "busy clusters" that reinforce main ideas in the content

Context as integral to learning

In addition to discourse strategies, other semiotic systems such as visual, gestural and actional cues that accompany verbal explanation are used to construct and transform knowledge. In the classroom the teacher typically draws on all the semiotic systems (language and multimodal) as resources to develop and consolidate students' conceptual understanding. The importance of all aspects that constitute the context in which the students are learning has been a significant finding in this research. Context is not merely a 'backdrop' or background to language, it is integral to the creation of meaning and field knowledge. Consequently, the presentation of information using a variety of resources affords the students the opportunity to understand the key concepts relevant to the subject and adopt the methodology appropriate for its study. It would seem that the likelihood of uptake is increased through such "message abundancy".

The significance of affect

The importance of both the cognitive domain (experiential) and the affective domain (interpersonal) in learning is reinforced in this research. As van Lier (1996) asserts "both the mental, or *intrapersonal* side of the learning process and its social, interactive , or *interpersonal* side" (van Lier 1996, p.37) are important. This research has identified a

number of strategies that support the interpersonal side of the learning process, thereby encouraging students to engage in dialogue and activities to develop understanding.

- sharing personal experiences with students that are relevant to the topic under discussion

- drawing on students' personal experiences and relating them to the topic under discussion

- using 'spatial' strategies to create interest by: moving around the room among the students while teaching; sitting with small groups of students to discuss or explain something while they are engaged in set activities, such as, answering questions on how paper was made from papyrus reeds; sitting in the middle of the room to demonstrate physical actions relevant to the topic under discussion, for example, the way in which different soldiers used their weapons

- demonstrating respect for students by appropriating and building on student responses and by vocatives such as *gentlemen*

- showing warmth towards students by occasional humorous remarks

- showing interest in students' lives outside the History classroom with general inquiries about things such as sport results and camp activities

- having high expectations of students in terms of both behaviour and quality of work.

Macro-Given and Macro-New

As already stated, a finding in this research has been the significance of the Induction genre in providing foundational understandings about the study of History for apprentice historians. Although this research is limited in that it deals with only one subject area, I would argue that other subject areas also use an Induction genre in the introductory lessons of Year 7 as a means of apprenticing students into the discourse and methodology of specific subject areas. I also argue that the Induction genre, in a very broad sense, operates as a type of *Macro-New* in this introductory stage with the Macrogenre being a *Macro-Given*. (*Given* and *New* are terms described in Chapter 4 to refer to the way information is

built-up in an information unit.) All further topics studied in History throughout the whole of the secondary school years are studied in relation to the core principles established in the *Macro-New* and reinforced in the *Macro-Given*. In other words a cycle of reinforcement of initial understandings about the nature of historical study for all topics is established in the very beginning lessons of secondary school. I suggest this same cycle is likely to occur in other subject areas in secondary school, such as Science and Design and Technology. Also, an induction cycle could possibly occur at different stages within the same subject when students are inducted into critical evaluation at a later stage in their education.

Dialogic mediation of learning

In this research, the interactional or contingent scaffolding has been found to be crucial in supporting students' understanding. It is through dialogue that support is provided and adjusted and it facilitates the collaborative approach necessary between the novice and the expert for the novice to acquire understanding of the concepts and information being presented (Palinscar 1986). As argued in Chapter 2, the dialogic relationship between discourses and activity, and the learner's appropriation of those discourses constitute learning (Hicks 1996). Moreover, the "social ecology" (Erickson 1996) of the classroom in which the dialogue takes place consists of an environment where there is a mutually constructed and evolving understanding created through social interaction. Here the teacher mediates students' learning through the dialogue and apprentices them into the discourse and methodology of History. Evidence of this kind of dialogic mediation to scaffold learning was observed in the data collected for this research and has been elaborated earlier in this chapter. Evidence of students' engagement with learning through dialogue was observed in a number of ways. For example:

- the willingness of students to suggest answers to the teacher's questions

- at times students initiating questions in the discussions with the number of the student initiations increasing as the topic developed

- the enthusiasm with which students participate in activities such as performing in a play; designing a plan for a pyramid; constructing a newspaper; and arguing the hierarchy of the social pyramid

- the overall successful performance of students in the end of topic test which required demonstration of both content knowledge and understanding of the process of historical inquiry.

I argue then that through discussion and participation in planned activities, that students are afforded opportunities to appropriate the ideas and discourse of the teacher as they undertake an apprenticeship as historians. Furthermore, this research confirms other studies that draw on sociocultural theories (Wells 1992, 1999; Mercer 1992, 1998; Hicks 1996; Gibbons 2002) in showing that learning is essentially social and that dialogue is a crucial element in the creation of a successful learning environment. It also affirms the social nature of learning and the primary role of teachers in providing a supportive environment in which learning can occur.

Another finding relates to the role the teacher adopts in the classroom. The classroom in this research is strongly teacher guided in terms of the development of content through strong classification and framing of the lessons and ways of controlling the development of discourse. This research shows that this does not preclude the classroom from being dialogic. Even though there is a knowledge and status differential between the teacher as expert and the student as novice, the teacher nevertheless provides opportunities for discussion and development of ideas about the topic. The overall "designed-in" plan of activities involved the students in many opportunities to engage in "talk as a social mode of thinking" (Mercer 1994). Activities such as: groups brainstorming key focus questions to be discussed (in the study of the topic *Egypt*); writing a newspaper broadsheet (to include facts about Ancient Egypt); negotiation of the performance of a play and answering both oral and written questions on various aspects of life in Ancient Egypt were employed to engage the students in practices of thinking and speaking as historians. Through dialogic interactions between the teacher and students that evolved from the class activities, students were expected to think beyond the simple retelling of the facts. They were challenged to consider firstly what these facts meant in terms of more theoretical understanding about how they contributed to the society, and secondly, how these specific facts could be generalized for all historical study. In other words, learning for the students is mediated through Well's notion of "dialogic inquiry" that supports the joint construction of meaning.

This view, supported by this research, sees education as a partnership involving a collaborative approach to teaching where students actively construct their own knowledge in a supportive learning environment (Wells 1987, 1995, 1999, 2002).

Joint construction vs co-construction

In reflecting on the collaboration between teacher and students to construct new understanding, I suggest it is useful to make a distinction between the terms *joint construction* and *co-construction. Co-construction* is a term used by Wells (1987, 1995, 1999), Edwards & Mercer (1987); Des-Fontain & Howe (1992); Smagorinsky (1995); Hicks (1996); Moll & Whitmore (1998) and Lantolf (2000) to describe the processes engaged in by teachers and students in order to develop a shared understanding. However, implicit in this term is the notion of equality between the interactants. I suggest that the term *joint construction* may be more appropriate since, while acknowledging the development of shared understanding through discourse and other multimodal strategies, it captures the unequal knowledge and power relationship typical in a classroom environment. A 'genuine' co-construction of new information and understanding is evident, for example, in a discussion between academic colleagues developing a proposal for a new project in their area of shared interest and expertize. Through discussion they 'bounce ideas off each other', challenge each other's ideas and extend their thinking with the final result being a proposal that is more robust than one constructed by an individual. In other words, with knowledge and power relationships relatively equal, there is a 'genuine' co-construction of knowledge. While it is possible for this to occur in classrooms as well, particularly in areas of technology application where students often are more knowledgeable about using technology, it is rare. In the majority of instances, as teachers are more knowledgeable than students about the topic, it is more likely the teacher will design activities and engage in discussions with students that will support them in developing new information. This I refer to as *joint construction.*

Activity Theory for 'metathinking'

The value of Activity Theory in researching the classroom has also been affirmed. As discussed in Chapter 2, an Activity system is a representation of the interrelationships present in any given social situation. The representation serves as a mediating text that,

because it reduces social situations to simple, manageable components, permits 'metathinking' about social situations. The researcher can consider the function of each element in the activity system individually and then in combination so it can be theorized about and ultimately acted upon. The application of Activity Theory to the classroom, although a fairly recent area of study, provides a rich and relevant theoretical framework with which to investigate pedagogic practices. By examining the chain of "actions" or "strategic steps" (Wells 1999) that contribute to the goal of the lesson/s and the "operations" that realize the goal, it is possible to theorize about how the factors in each element will lead to optimal educational outcomes.

Activity Theory for investigating classroom outcomes

As already established in this research, the practice of education (the motive of the activity) is enacted within a specific activity setting of a History classroom, as the students are being acculturated into the discourse and methodology of the subject through the everyday "actions" of the lessons. In this study, detailed linguistic analysis of the discourse, that is, part of the "operation" in an "activity", enabled the researcher to show areas of potential tension and breakdown. Engestrom's expanded model of activity, (described early in Chapter 2 and later applied briefly to this research in the same chapter), has been applied to the classroom context in an exploratory way to describe the various interactions among the elements of *mediating artifacts, subject, object, rules, community* and *division of labour*. This model was applied at two levels, first with the study of History as a discrete subject in high school situated within its sociocultural context at a system level and second at the local level of the Induction genre and the Macrogenre. An understanding of the complex interactions and interrelationships that occur in a classroom environment as well as an explication of the social and collaborative nature of actions can be developed through the application of this model.

In addition, through an analysis of the elements that constitute an activity setting, it becomes possible to suggest some of the reasons why students may learn or fail to learn within an institutional setting. This has practical implications for pedagogic practice as classroom teachers can explicitly examine the goal of each element and plan what tasks will enable the most effective interplay among them to achieve the overall goal of the unit of

work and the goal of each individual lesson within the unit. Through examining the organization of the classroom and the multi-levels and cross-situational elements that structure it, the learning process itself which "can be understood as both structured by and constituting activities" (Martin, Nelson & Tobach 1995, p. 8-9) can be further elucidated.

In applying Activity Theory specifically to History teaching, Hedegaard states the main contribution consists of "turning History into a "toolkit" for children, both to relate to their past and to orient toward their future" (Hedegaard 1999, p.296). In the discourse of History, the focus on the past, continuity and change and causation are key principles in understanding the values and institutions of our world. Through Activity Theory, the development of human thinking is grounded in socioculturally situated practice that recognizes the centrality of language as a mediating tool and the importance of context in the construction of understanding. The concrete teaching activities that "operationalize" the actions provide the context for students to use the tools of language to develop abstract concepts.

The value of detailed analysis

A major conclusion that can be drawn is the value of using detailed analysis of the data using different applications of SFL theory. A large body of classroom discourse was collected and a significant number of clauses were analysed using a number of different analytical tools: transitivity; lexical strings; the notion of prospectiveness and multimodal analysis (Chapter 3 provides details of the breadth of the analysis). By drawing on a range of analytical tools it was possible to identify emerging patterns in the discourse.

In addition, these different tools provided slightly different 'takes' on the same data. For example, the transitivity analysis and lexical relations analysis with the identification of "busy clusters", were core tools that enabled the examination of the experiential meaning of the discourse; whereas Well's notion of increasing prospectiveness in questioning, demonstrated the way in which the teacher 'pushed' the students to longer, more sophisticated responses. Through analysing the grammar that created this experiential meaning, the 'metaphoric' journey that acculturated students into the methodology of History could be identified. In terms of pedagogic discourse, the experiential meaning

relates to *instructional* discourse and enables the researcher to 'track' the way in which student language is appropriated and recontextualized for the subject discipline.

Furthermore, the analysis of teacher questioning using Well's (1999) categories for discourse analysis provided a means of accounting for the way in which the teacher extended, clarified and reformulated students' thinking and created "conceptual hooks" by summarising key points through "metacomments". Finally, through SFL analysis, I was able to 'zoom-in' at the level of "operations" and investigate in detail the way in which meaning was being constructed. In short, the usefulness of SFL is that it supports the researcher in 'holding up to the light' and making explicit the everyday practices of teachers and their impact on student learning that for the most part remain vague and implicit.

Viewing through different lenses

A further finding is the value of a broad range of theories to inform the research. Even though a rich description of a culturally mediated activity is provided through Activity Theory, an analysis of **how** a goal is achieved, that is, what practices support students to become apprentice historians, still needs to be clearly articulated. SFL theory and sociological theories that address questions of pedagogic relations and pedagogic discourse have been used in this research to complement Activity Theory and they make a significant contribution to discussions about the development of an interdisciplinary, socially constructed theory of pedagogy.

To conclude then, this thesis has been informed by sociocultural approaches to a socially oriented theory of learning; Activity Theory and the classroom as a site of activity; and language as a social semiotic. These have formed the cornerstones of the research. These multiple perspectives, or different sets of lenses on the same events, have made possible a 'rich' description from which to draw conclusions about effective teaching and learning practices.

Future directions: implications for educational practice

This research has attempted to enrich discussion about the nature of effective teaching and the teacher's role in supporting students' learning by uniting sociocultural perspectives with those derived from other current social and behavioural sciences. Through detailed analysis of a specific classroom example, situated within a sociocultural paradigm, some insights about the social nature of learning, the kinds of support provided that mediate learning and the unique situatedness of the context in which the learning is taking place have been gained. However, more questions that are beyond the scope of this research have been raised which could form the basis of further study. One question of interest is the extent to which outcomes from research can be generalized, and in particular, to what extent the discourse strategies and multimodal strategies that have been identified in this research can be generalized to accommodate all classrooms and students in different learning situations. Further research in other contexts such as English as a Second Language, specific learning difficulties and Aboriginal education is required.

Furthermore, this research has only entered into an initial exploration of Activity Theory and its usefulness in informing pedagogic practice. I suggest that the teacher's ability to articulate the goals of each of the elements in an activity while undertaking the design of a unit of work overall, as well as the ways in which each lesson relates to the overall goal of the unit, can enhance the quality of the unit and, subsequently, contribute to improved student learning outcomes. However, there is considerable scope for further work to be conducted in this area. Also as part of this, there could be investigations into the way in which different teachers, teaching the same content to similar students, can have markedly different outcomes.

There also needs to be further study on the specific nature of the classroom as an activity setting, which has as its goal the transforming of *subjects* through engagement in activity that is shaped by interactions. As Mercer suggests, there is a need to further investigate the relationship between language and thinking, captured in his notion of 'interthinking' (Mercer 2000). This would "bring the intellectual, developmental, pragmatic, social and cultural functions of language within one theoretical framework" (Mercer 2002, p.10) that could be applied to educational and other applied fields of research.

Teaching is a complex human activity. It consists of the social interactions in the classroom, the cognitive processing of the individual and the specific nature of the subject area, all of which are mediated through language. A theory of teaching that addresses all these strands that exist in a dynamic relationship to each other would contribute much to informing teachers and teacher educators about how to improve educational outcomes for their students. This thesis has contributed to the on-going development of such a theory of teaching.

Appendices

Appendix 1: Transcript: What is History? lesson

Turns are marked as separate episodes. Unintelligible responses are marked as * with the number of * denoting single word or longer responses.

Turns	Teacher	Students
Episode 1	so we're working in groups for the one period of History you've had so far at school/see if you can find out those people who were scribing for their group/ we got so far/can somebody give us a little summary of the sorts of things we were talking about in relationship to what is History/we wrote down a list of words	
2		History is a series of events that occurred in the past
3	OK we said History was a series of events that occurred in the past	
4		um changes that
5	Oh yeah/ these are the things we have to remember/change/effect/past/people/events/ causes/OK these are the words we picked out of these sorts of sentences weren't they/do you remember that/ gee I didn't/ I'd forgotten all about those/ OK/changes/effect/past/people/words that relate specifically to the discipline of History/is there anything that we've thought about we can add to those/is there anything that you wrote down last week/whether in your groups or individual when you were thinking about it/ try to explain what we do as historians or describe what History is/	
6		*no response*

7	just quickly then see if you can write down a descriptive sentence about History to include all those words/ now that's a change/ you've got five minutes 5 minutes to write a sentence describing what History is using all those words and we might come up with a definition mightn't we /if we do that/ so a sort of a definition if you like using those words about History/History is/maybe is that a good start/	
8		J: uh yourself *(question)*
9	no just by yourself../5 minutes/ see how you go/will we get a definition folks	
Episode 2	History is about people who have affected the past and caused/.. um/ this is very sophisticated/in change/ it's pretty hard cause he's going further up the blackboard/um changing in the present/that's pretty good/ pretty good/is he right/has he got it	
10		no
11	gee you're a hard bunch of critics/is he right/	
12		yes sir
13	History is about people who have affected the past and caused a change in the present/ it certainly is isn't it/think how often we in actual fact study significant people in history/ if we wander into a bookshop and wander through the most popular section of the book shop we more often than not find books about people which are called	
14		biographies
15	biographies/yeah one of the most popular non fiction type of book/and biography of for people who are interested in how people affected their time and affect the present /OK/now is that all that History is /can we maybe change a little/just so we'll look at another definition using the same words/maybe um look at it maybe slightly differently/anybody got another sentence/ changes in people affect time which causeschanges in people affects times/ causes History/can you explain that a little more	

16		what people do makes history
17	what people do/ OK/ put that in brackets after/isn't that too similar to the top one isn't it/anybody got another /so History is about the past/ people have changed and affected our lives/alright then/ what's this describes this word/ take those 3 sentences/ which do you think is the strongest word amongst all those things that describe what history is/ is the study of	
18		the past
19	do you think that's the strongest word	
20		*students nod*
21	Ok let's rate them/ who says the strongest word is past/ History is about the past	*two students raise hands*
22	History is about the past/ it seems we've got a lack of confidence here/a nice strong word to describe what History is/is it change/ change who likes change	
23		*students agree*
24	yeah I like that one too/ yeah I like change/if we study change we automatically have to do what/	
25		record
26	yeah we've got to start looking at record books of the past/we've got to start looking at what else/if we study change you've got to look at the past to be able to describe what changes have occurred/ what else have we got to do/look at people/ how people have changed/yeah so in describing change we are in actual fact describing people/ what do we do when we look at change	
27		in what way it's affected us
28	yeah right /in actual fact how that change has affected us	
29		the causes

30 **Episode 3**	yeah/ what causes the change/ that's why I like that word as the strongest word to describe it/History is about the study of change and what causes it /how it has affected people's lives etc etc/ something like that/ cause that's what historians are looking at/ changes/ what caused it/OK/so we go through a process don't we / we study something in History we/ well what's the first thing historians do/ imagine yourself to be a professor of History at the University of NSW and you decide to write a new thesis/ what would be the first thing you would do	
31		um...get lots of (facts??)
32	well possibly but there's something you do before that	
33		investigate like investigate
34	what	
35		things around us/ anything/ any of the important things that are happening nowadays
36	yeah/ you'll still have to be a little bit more specific/ more centred/ more focussed	
37		things that affect the whole world like
Episode 4 38	alright OK / I think our historian would start off with just choosing an event/ OK to begin our investigation for example /who is /well think of someone who investigates something/ a detective/there has to be an event for him to investigate OK/ so what event does a detective investigate/a crime/ -a murder/ a robbery/ whatever/ so he chooses/ an historian chooses an event/ his next /his next task is what	
39		oh finding the (location??)

40	OK so he finds out presumably what took place/ sometimes..sometimes easy sometimes difficult isn't it to find out what took place /but it's a descriptive task/ if you took for example if we use the example of Princess Diana's death/ do we know really what happened	
41		no
42	we've got a reasonable idea/ the poor old detectives have a difficult time getting all the information/ sometimes/historians have the same sorts of difficulty/what do we have to rely on/ what the source of what are we looking for	
43		information
44	information about the event/what else / what is another word that could be used to describe information	
45		dates
46	well as far as the detective	
47		facts
48	information/ facts/ we're looking for the facts/ what do detectives call this	
49		evidence
50	evidence/ so a historian doesn't he get his evidence from a whole variety of sources doesn't he/..what sort of sources does a detective use/ a detective is investigating Diana's death/ what's the sort of sources he uses	
51		eyewitnesses
52	eyewitnesses/ so we're starting to just/ using the detective analogy/ we're starting to construct whole series of words that describe what historians are doing/ and that was our other task wasn't it /to describe what historians do/so in order to investigate an event the detective or the historian works out what took place/ he gathers information from a whole series of sources/ tries to gather facts and evidence /so he seeks witnesses/ in the case of Diana's death it would be eyewitnesses/what other information do they then start to gather	

53		um they like/ try to work it out/ they could have like educated guesses
54	educated guesses/ how do they make educated guesses/ what sort other than witnesses what do they start to do	
55		start like writing down the names and working out things
56	alright /OK /they if you like double check on the witnesses and they look for what they call collaborative evidence/ Ok/what else do they use other than collaborative evidence/ in Diana's death what did they use/ they talked about it ad infinitum on the news/	
57		look in the car
58	they look at objects	
59		they examine
60	they examine/ let's call it the scene of the crime/ OK how do they do that/ask what sort of things do / they looked at the car/ so why are they looking at the car/who who was in the car/what do they use	
61		um computers
62	yeah they can/ yeah/in actual fact they can use witnesses for a computer reconstruction/ to explain what happened in the tunnel as they careered through it/ a car that explains	
63		how it happened
64	what else/ who does it	
65		police scientist
66	police scientists yes/ forensic scientist/ forensic experts etc etc	
67		they hypothesise
68	they hypothesise/ yeah they do that too/ what other references do they use	
69		check with the paperazzi
70	yes they try to they look at photos/what else/ scientific evidence/ what else	
71		fingerprints

72	they took the blood alcohol level of the driver and all that sort of thing/ so all that scientific evidence to try and piece it together/ what sort of sources would an historian use because we're now talking about an event that is something that's taken place/ we may have eyewitnesses /we may not/ so other than eyewitnesses what else does an historian use	
73		records
74	records /what sort of records	
75		books
76	like what	
77		encyclopedias
78		in the bible
79	could be in the bible/I don't know what we're studying	
80		police records
81	we could use police records/ but what other types of records could we use	
82		um the (facts??)
83	he could go to the scene of the crime /so to speak/ he could use archeological evidence/ OK and that's information gathered by archaeologists sifting through buildings/ in the case of us if you were studying aboriginal society you'd go through the middens and things like that/ records such as official records kept by governments/ what's records kept by governments in Australia called/ does anybody know/ it's a special book that anyone can read..that is spoken/ you can actually read every word that is spoken	
84		hansard
85	hansard has recorded every word that is spoken /so you put all those official records that are available to the historian/ the births and deaths certificates	
86		newspapers

87	newspaper/ magazine/ photographs/ film/ since the invention of the camera we've got a whole series of events that have been recorded visually for us /there's a whole series of visual eyewitness /oral accounts/ unending unending/literally unending number of sources and types of sources a historian could could possibly use/ depending on events that is analysed	
88		if an historian is studying Ancient History/ he could read hieroglyphics/ he could go to/ the hieroglyphics will tell you what you want to know
89	it would be nice if it did but unfortunately it doesn't	
90		it could tell the stories
91	yes it does /but it wouldn't tell you everything you want to know	
92		historians
93 **Episode 5**	yeah/ historians use other historians /for example if I started to study a particular event in Australian history/ I would go to some famous historian/ Australian historian who'd already written about it and see what they had already written about it/so historians use other historians quite regularly to understand an event/ OK so we studied/ OK what took place/…. we choose an event and we ask the question what took place/that's the first thing we did/ then what would be asked/ we hypothesise about what/someone mentioned hypothesising	
94		why or how

95 **Episode 6**	let's start with how/in the case of Diana's death we've got all we can collect/ all the information from the eyewitnesses photographs forensic tests blood alcohol levels of the driver etc/ give an explanation of why on that night that car crashed/causing her to die/ the fact that she had no seat belt may have been a contributing factor/ all that evidence was collected in order to explain how the whole event occurred that led to her death/ then there's another question to be asked	
96		why
97	why/ and that's probably the most difficult/ if we take Diana's death as an example /what's one of the popularly held beliefs about why	
98		it was the paparazzi
99 **Episode 7**	yes a popular explanation is it was the hounding of the paparazzi/ who constantly dogged Diana where she was /and people explain the event/why it occurred because of the sequence of events/ what and how placed into a course of action because of that overdegree of interest in her movements/ and so people explain the events/ now that's what historians do as well/ so we can write those things down can't we	
100		sir *****
101	well a lot took place/ well almost automatic/ what went in there/ we can write those things down/we'll be constantly asking those questions/ it will be related to the past/ it will be related to the change/ and something else that you all included most of you included in your one little sentence/ somehow we've got to relate that/ what's the point of looking at things in the past/ what's the point of looking at the past	
102		discovery
103		to see how it's changed the present

| 104 | to see how it's changed to the present/it's all very well/ but unless we can relate those changes to how it affects us or how it may potentially affect our future /it ain't worth doin'/OK /so historians always relate things to the impact on the present/ if I was trying to explain who I was as a person I would have to explain my history/ if I wanted to understand who I am as a person I've got to understand my history /and this is why history is so important and why this word here is so important/ if I want to understand my country I've got to understand its history/ if I want to understand the world and the way it is and all the troubles and strifes and good things about the world /I've got to understand its history/ if I can't understand modern politics unless I understand the politics of the past/ same thing/ so it is absolutely essential if I want to understand our world/ the world we live in now and the future and ourselves to understand the history of it/ unavoidable unfortunately gentlemen/ unavoidable/ any questions | |

Appendix 2: Transcript: The pyjama girl mystery lesson

Missed lesson on previous day where teacher introduced *The pyjama girl mystery* and handed out clue sheets.

Episode	Teacher	Students
Episode1 1	so we're working in groups for the one period of History you've had so far at school/see if you can find out those people who were scribing for their group/ we got so far/can somebody give us a little summary of the sorts of things we were talking about in relationship to what is History/we wrote down a list of words	
2		her identity
3	what is the identify/ OK/ so that is what all these clues hopefully/ but not all of them will/ but most of these clues should be aimed at establishing this girl's identify/ so the task I set you is to ask think about how you might find more about each one of these/..we will leave this one out to start with because that's not going to help us with her identify/.we know that her identity has been masked by the mutilation of her face and the body is being burnt/ now alright so let's start off with a the cream and green pyjamas with the dragon motif/ now….we've got that that one have we/ how are we going to use that piece of equipment if you like to try to identify her	
4		um to find out what made her wear it and possibly where it was bought from
5	OK…OK so identifies the brand name and the places where you could/ its outlets locations or its outlets/ where you can buy it/ what shops you can buy it	

6		sir/ I reckon where that type of pyjama could be bought/ how old they are/ you can usually tell how it could give you clues/o it could be traced / cause if they're new/a shop assistants might remember selling them
7	yep/yep	
8		******
9	OK alright	
10		fingerprints
11	I don't know if you can pick up fingerprints from material/ ah but/ anything else about it/ what have I got here	
12		um a dragon is Chinese so it/ she might be Chinese
13	possibly/ that's a guess though isn't it at this stage/ so if we can find the find the brand name, location/ we'll do that first/ of the pyjama top/ OK/ any experts to help us here	
14		some more experienced detectives/ like supersleuths or
15	possibly/ any other experts	
16		introduce forensics
17	forensics yeah/ we'll probably need forensic experts won't we	
18		and and you can check on the pyjamas/ if there was a name or anything
19	well I've done that/ brand name location of outlet	
20		no
21	age of	
22		no/of the owner

23	well let's assume that's not there or we would know straight away/ now if we find your shirt/ if we found you murdered and mutilated/ has your shirt got your name tag on it	
24		yep
25	it's a pretty new one/ well we wouldn't have to go much further would we	
26		no
27	in case to know who you were/ well hopefully unless you pinched the shirt off someone else/ so we'd probably need a forensic expert/ so you'd have to look for another source of information/ maybe you could analyse the age of the garment/any other experts we might	
28		a dentist that we could compare with her teeth
29	what does a dentist do with pyjamas	
30		*****
31	a dentist isn't going to do anything with pyjamas thought is he/ alright what about the bag/ the bag was placed over the head and shoulders	
32		how they (placed??) it around her head
33	yeah yeah/ I think that we can probably lock those two things together can't we	
34		yep
35	is there something about the bag that may be in actual fact clues to where she's come from/ OK/ you know the only information is that we've got a bag over her mutilated face/ can we bracket the towel with that as well	
36		**
37	yep /yep	
38		you can't really tell whose towel it was/ it could be um someones
39	well if we're not told whose towel it is / we know it's/ we're told it's got initials on it	
40		you can't really tell whose towel it was/ it could be stolen from the motel
41	that's right but what maybe/ but what does that indicate/ if it was stolen from the motel	

42		she was asleep in the motel with her bag next to her bed
43	*(Laughs)* well let's not jump too far ahead	
44		well she was asleep in the hotel so she had her bag with her
		she might be a poor person
45	so	
46		she wasn't poor
47	so it's a hotel towel	
48		check the initials
49		and then you can
50		*students calling out*
51	excuse me	
52		listen to
53		and then you can find out what kind of hotel it is/ and who stayed there
54	who could you find out from	
55		the hotel manager
56	yeah the receptionist	
57		hotel manager
58	manager/ people who possibly had seen her/ OK/ try and find people who possibly saw her/ where in actual fact in all of these things we're trying to lead ourselves towards finding someone who..	
59		knew her
60	to trace back the pyjamas to a certain shop/ certain location ultimately what is that going to give us/ who are we trying to trace all this back to	
61		her parents
62	no	
63		I reckon the country/ like she lived in**
64		where she might have lived

65	maybe/ we're looking for s-s-something/we're looking for ultimately her identity/ we're trying to reveal her identity / the pyjamas alone aren't going to reveal her identity/ where she got them from/ are we looking for	
66		where she lives/ what town
67	yer ultimately but that's not necessarily going to tell us who she is	
68		yeah/ but if we find the right town/ her mother might live there and we could show her her body
69		yeah
70	someone who knows her / we're trying to identify a witness aren't we/ her identity/ yeah it could be her mother/ the pyjamas are not necessarily going to lead us to her mother	
71		no but the body
73	we're looking for somebody/ an eyewitness that can say that yes this girl could/ that fits this description on such and such a date/ they might be able to supply a name/ so we are looking for these witnesses/ alright	
74		sir
75	anything else about this equipment	
76		I was just saying what you were saying to try and find out/ um people who knew her/ I don't think that (well is necessarily the case *** it could be an alibi ??)
77	that's a possibility/ but we're going to try and close our possibilities down/ haven't we/ OK	
78		sir what will happen if that pyjama was mass produced and sold everywhere
79	yeah well I guess we're up the creek aren't we	
80		yes
81		***
82	yes	

83		S1:if it was very common and everyone had like
84	well yes/that make the task so much more difficult ...but we've got to eliminate those don't we	
85		S1:yes but if it was hand made then we could go to the makers of it
86	yes so	
87		S2 :but her boyfriend could have bought it/ anyone could have bought it
88	yeah	
89		it's exotic
90	so it tells us it was exotic/ means usually bought in from overseas/ something not from within Australia/ that's if you use the language correctly and we're assuming that they've used the language correctly/ so it's not you know/ that would imply that it's not mass produced/ but if it was mass produced it would make a detective's job nearly impossible	
91		yeah
92	it's like you know/ if you walk out into the playground and you find somebodies tie/ and you know it hasn't got their name on it/ it could be almost anybody of 1200 people couldn't it	
93		yeah
94	which makes the job of finding the owner really difficult/ whereas if you've got your name on it/ you can find them straight away	
95		***
96

Episode 2 | da de da *(singing)*a motherless tie alright/ so yeah/ good food/
what about some other clues/ how are we going to use them/ the location/ how can that help us identify this girl | |
| 97 | | she could either be/ she could be in Victoria or NSW |
| 98 | more than likely | |

99		she could live in Sydney or Melbourne
100	well yeah/ the possibility of/ we've at least reduced it to the possibility of two states maybe/ haven't we	
101		S: no not really
102	what	
103		S:****airport
104		S2:they might have drove all the way from South Australia
105		S3 was the body (off??) or old or something
106	we're not told that are we/ we're assuming that it's probably uh/ relatively fresh is the word that .../it hasn't decomposed/ we're not saying it's decomposed beyond recognition	
107		****(maggots??)****
108	yeah OK/ again what you do is start interviewing don't you	
109		like the people who were around
110	start interviewing the um um neighbours/ OK wouldn't you/ so if we walked in/ if we walked into this room and found a dead body it would be a reasonable assumption/ but if you started interviewing the class that was in here before we got in here/ we might actually find some information about what took place/ OK so anything else about the location	
111		it could be like the ACT/ but you could um we could also ask the people**** /you could only pay about $2******
112	1934 *(raised inflection)*	
113		1934
114	no not 1934/ Australian trade by 1934 was absolutely free/ written into our constitution/ not that anyone reads our constitution / but anyway	
115		um you could check service stations to see

116	ah well don't / yeah OK/ the time to get there and you know the possibility of checking neighbours/ petrol stations	
117		yeah have you had a dead lady with a bag over her head lately *(laughs)*
118	no	
119		no if she's fresh like she must have died just the/ she wouldn't
120		in the country area wouldn't people like running the petrol station notice strangers
121		yes yeah
122	yeah think about it	
123		yeah they notice everything
124	people in country town/ not necessarily Albury/ because Albury's a relatively big one/ but other smaller towns notice strangers/ OK/ so the police would start to investigate those possibilities/ for example if we think about well um/ you probably won't remember this/ but the Rainbow Warriors incident/ the reason why they were able to track down those were Frenchmen who carried out the bombing of the Rainbow Warrior in New Zealand a few years ago/ was the fact that they passed through small New Zealand country towns/ the New Zealanders noticed that there were Frenchmen in town/ you don't forget that sort of thing/ it's unusual so that's another possibility/ that's a good one/ alright what else is our location/ location and this	
124		I've got a good one
125	location	
126		no it's about the petrol station/ as if they're going to know that/ uh you could be driving there past/ where people stop there/ past Albury to get petrol

127	that's a possibility/ but it's something that we can eliminate can't we	
128		you could be driving/ what's to say they're going to stop to get petrol
129	no you've got to check it out haven't you/ if you don't and he has /somebody could be sitting on a piece of information/ you have failed to carry out your job as a detective	
130		sir
131	historians don't pass up clues just because they're difficult/ or maybe it's not going to lead you somewhere/ you check it out to make sure it's not relevant/ you have to eliminate things as well as include things/ is this piece of information relevant/ yes or no/ will it lead us anywhere/ don't know/ let's check it out/ it may not but it may/ so that's our goal isn't it	
132		sir sir um/ when the um/when the um body was found of/ um was there any signs of like ..fire being burnt there/ because if not it would have to be burnt somewhere else
133		*(students in unison)* somewhere else
134	I think it was actually burnt on site/ we don't know that it's not told to us	
135		sir there would have been all this smoke
136	well again	
137		*students calling out*
138	they're the sort/ they're the sorts of things that we try to openly find those sort of things/ alright that's all about all we can with the location I suppose	
139		if somebody was burnt near wouldn't there be black grass everywhere
140		ash all over
141	we're not told/ but I'm confident that it was burnt on site	

142		*(several students calling out)* did they burn it actually there
143	let's think about where it was actually burnt in a um culvert/ a stone culvert/ it's not going to	
144		*students calling out*
145	well that' not relevant now	
146		*******
147	that's amazing/ (the main thing??)	
148		*students laugh*
Episode 3 149	right/ how about this car/ what will we do with the car skid marks/ what is the process that we go through	
150		S1:um we get/ mark and the depth of the track/ we get forensic experts and to see how old
151	OK *(overlap)*	
152		S1 *(continues)* -to see how old they are and then if they're not old we go around local um tyre places and see if anyone bought one of these tyres ******
153		like a (faster??) car sort of
154	I need a tyre and a possible car/ what are you going to do with that information though/ are you going to link it into something else that you're already doing	
155		um it it was/um a good car/ um the person must be rich/ so you narrow it down to rich people/and if it was a bad car you narrow it to poorer people
156		it could be stolen
157		or rented
158	well yeah	

159		***or be***/ it could be in the bottom of the river
160	right we won't be testing that area will we	
161		everywhere
162	yeah, everywhere *(laughs)* um a stolen, rented bla bla whatever	
163		if it was rented then it wouldn't wouldn't be a very good idea
164	no obviously not	
165		***
166	who else/can you think of anything else we could be worth doing	
167		contact a neighbour/ or the guy from the petrol station
168	yes we can try and link these two things together can't we/ as we are going around looking asking people about if there are strangers in town/ if we've got something** this car as well/ have you seen such and such a type of car/ those things can be linked together	
169		if we could assume the direction they're coming from
170		that's what I said
171	direction yeah/ find direction/yesterday we identified /might pin-point the direction	
172		they could have done a uey (a u-turn)
173	yeah we don't know the direction	
174		if they had gone on the grass/ wouldn't there be mud and marks on the road
175	direction/ question mark/question mark	
Episode 4 176	anything else, what are we up to?	
177		um I got /I bought in about location
178	yeah	

179		and on the bag there could be fingerprints
180	yeah, unlikely but still yeah	
181		and if the ****
182	don't /how many of you are thinking that the bag over her head is something like you carry around	
183		like a plastic or paper bag
184		don't know - it would be**
185	it's more likely to be a hessian bag/or something like that	
186		yeah a hessian bag
187		what's a hessian bag
188		a potato bag
189	material, made out of material	
190		S1: the ***/she was put inside the bag like
191	yeah	
192		S1: that means she was very likely murdered
193		S2:nah the guy at the pub
194		S1:well how come you have to say that *(turning to other student)*
195		****
196	Sh sh,sh/OK/ what about the description /what are we going to do with this description	
197		S2:check with missing persons to see if she
198	here we go/yeah right	
199		S2: we already know the description
200	what else	
201		describe her/ put it over the wireless
202	OK	
203		*students calling out*

204	OK confirmation/ either over the wireless/ radio/ whatever you want to call it /they probably called it a wireless in 1934/ um/in newspapers	
205		*students calling out* (problem solve??)
206	and posters/ public display etc/ whatever else can you think of/ all trying to identify /find someone to come forward who can identify her right/ what the idea is to get somebody to say to come forward and say yes that's Joe Bloggs who lives down the road from me	
207		oh man oh **
208	Josephine Bloggs/ar um that lives down the road from me / OK/ so that's all aimed at doing that/ anybody with any other ideas about how we investigate any of those things	
209		oh um how/ and was/ the policeman said was it hit her with a hammer/ other
210	why was he trying to find **/doesn't follow doesn't follow the idea/ we had the idea yesterday that that if you if we looked for other crimes of this kind	
211		sir and look for a motive
212	OK if we in actual fact um/ looked yeah/ maybe it's not going to help us well much at this stage if we don't know much/ but yesterday we were talking about the possibility of serial killers and that all kind of things so this type or kind/ it's murder but this kind of distinguishes it I guess from the fact that that face has been mutilated /the body has been burnt/ maybe there's somewhere that in this day and age of um serial killers seem to get a lot of news coverage/ maybe these / is someone around who does this to their victims/ so that's that's another possibility so we're/ we're starting to look at using other experts for example um um /we're looking at forensic experts, maybe using people who um um/ for example with the pyjamas we could go to the retail outlet or people who or buyers or anyone like that who can tell us about those sort of things	
213		**

214	OK/ any other inventive ideas to investigate a few of those things that people thought of	
215		was the initial on the towel hers
216	we're not told that/ we're not told that	
217		**
218	yeah/ yeah	
219		do you know what towel and initial actually were
220	no/ no I don't/ I might have to go back and find out/ what that with we're certainly not told there /but it doesn't seem to be significant either at this stage	
221		sir
222	yep	
223		um was there any information that um the girl died by burning/ or is there information that she was like stabbed or strangled or like
224 **Episode 5**	later on there's a clue/ let's move on there/ look at the sheet you've got there/ we'll move to the next clue that you've got there/ and I think it's called the final clue	
225		**
226	In 1944/ 10 years later OK 10 years later /Commissioner Bill Mackay asked a team of three dentists /so we're actually going to now bring in some other experts to try and find this girl's identity/ because as somebody already suggested that we bring in a dentist to identify/ try and help find/ help identify her from her dental records/ and what's it say that they do/ can you read it	

227		In 1944, Commissioner Bill Mackay asked a team of three dentists to make another examination of the skeleton of the pyjama girl. This time the dentists noticed a tiny gap where a porcelain filling had fallen out. The dental records were checked against Linda Agostini's and they matched perfectly. Identification
228	stop there/how did they get her/ how did they have her name/ um how did they establish a name/ you should have already this earlier on/ how did they establish her a name/ this name Linda Agostini	
229		from the towel
230	no/ you haven't read it yet**	
231		um they put the body on display
232	right/ they put the body on display/ a bit gruesome isn't it	
233		will they do that these days
234	no/ what do they do these days	
235		DNA test
236		were we were we were we supposed to read like sort of four perfect clues to correct it
237	oh./didn't I tell you to do that	
238		no you didn't
239	oh I'm sorry/ OK we better take a step backwards/ that's my fault/ beg your pardon/ OK/ let's go back to the fifth/ alright/ I beg your pardon/ that's my fault/ let's go back to those	
240		now we know what happened

241	yeah/ beg your pardon/ my mistake/ let's go back to these/ alright we've got this situation where they're gone through all this and they're still not revealed enough/ so the police desperately seeking to find out if who ident/ they put the body on display/ what do they usually do these days/ we've had a few missing per/famous missing persons recently and um/ over the uh holidays /ah the police did what to try and jog people's memories	
242		they made models of them
243	OK/ they made models of them/ OK which would seem to me to be a little bit more /less gruesome than sort of freezing the body/ putting it on display um/ in those days it was a missing person/ they don't have the body /so what you do is make models from a photograph which is a little bit more **/ than those two missing school girls down the south coast when they the	
244		yeah
245	where they actually put them on the road where they were last seen /so it makes in case passers by/ it you know/ jogged their memories about what the girls /liked like they do that /so okay/ they put the body on display/ <u>The police put the preserved body on public display in an ice bath at Albury Hospital and later transferred the body to Sydney University in the hope that somebody would recognise it.</u> OK and you've got a photograph here/ yuk *(shrugged)* a bit ghoulish but that's the way it goes/ and from that they got another piece of information/ <u>Sydney residents claimed the body resembled a lady by the name of Linda Agostini</u>/ they get a name/ it doesn't solve the crime though does it/ she lived in Kings Cross Sydney/ so we've got another location and she's got a husband Tony.	
246		they said that she moved to Melbourne
247	did they/ police questioned the husband/ that's the sixth clue/ oh yes/ they told us they moved to Melbourne/ they moved to Melbourne/ put that in /moved to Melbourne / police questioned her husband/ have they got a suspect	

248		yes/ yes
249	have they	
250		no
251	the question is how we nail this guy	
252		*(laughs)* hard evidence/ nails (are gone??)
253	they've got to find the hard evidence to prove that he did it	
254		**
Episode 6 255	OK /so we've got a name and we've got an identify/ we've got a suspect/ now we've got to try to find uh to solve the murder/ we got to find out hard evidence that is going to link her death with our suspect	
256		we don't have a motive
257	no we don't/ it's really you know/ it's going to be harder/and this is why it remained a mystery for	
258		**************
259	did you, how did you go/ OK did you mean that was an OK or a don't know	
260		don't know *(laughs)*
261	alright/the police go and question her husband. Mr Agostini who said that his wife in actual fact had left him the previous August /it makes it difficult that is just that doesn't say that that he didn't do it/ he says that 'Hey I know nothing about it because she left me/I don't know what happened to her since last August'	
262		he didn't do it
263		he did do it
264		he did so do it
265	you know exactly who did it/ but how do we construct the evidence to show who did/ our 7th clue yeah/ for anyone who's read ahead/ our 7th clue is that the coroner Mr Sweeney that between the 28th of August 1934/ a woman's body was found partly burned near Albury/ she had died from injuries to the skull and brain but where and by whom he could not tell/ OK we've got a date now of the death	

266		**
267	in fact and strangely enough Mr Agostini actually told a lie	
268		he said if /that he told the truth/ his wife did leave him
269	precisely/ Mr Agostini just told the perfect truth/ he just didn't tell the whole truth/ he didn't tell someo/ people how his wife left him	
270		how
271		he just said his wife left him the previous August
272	oh so who / August 31st /so he in actual fact was he thinking /was he hoping the police were going to thin/ assume that	
273		he didn't do it
274	yer/ that he didn't do it/yer that in some way in/ somehow in the leaving of him that she's run into some sort of foul play carried out by someone else/ now if the wife had decided to leave him in Melbourne and maybe travelled back to Sydney/ she could have run across somebody who has committed the murder/ I mean that is now I'm just presuming/ that's what Mr Agostini was hoping the police would were going to believe.	
275		***
276	there's an 8th clue there/ the woman's physical peculiarities were that she had large hands/ peroxided hair and ears with almost no lobes/ any help alright/	
277		and ask people around that know her /like the lady** that had no ear lobes/ and that everything like that and say if she had
278		yeah large hands
279	the police have now got an identity/ they've got a suspect /what do they got /what do they have to try to establish/ now to try and link Tony with Linda's death in order to start constructing a case/ they have to link Tony with what	

280		um why um/ why he um split up with her
281	well we got to try and find some sort of motive maybe	
282		was he angry about it
283	what else might we do/ might have to link the two of them together/ what have we got to try to establish/ think about it	
284		was he um/ need to go away
285	yeah/ we could then start interviewing	
286		friends and
287	friends/ neighbours	
288		*students calling out*
289	yeah/ so we start looking for information about their relationship/ what next/ come on there's got to be/ its plainly obvious/ we've got a whole list of clues down the left hand side of the board and we've got a suspect/ one of the first things that we've got to	
290		investigate
291	try to to create the link between these two events	
292		check if he had a car like that
293	oh thank you /see if we can link the car to Tony/ what else	
294		if Linda has anyone else in the car travelling with her
295	well hopefully that may/ that would have been already discovered if we had been to find that out /but yeah/ that's another one	
296		the initials on the towel
297	the initials on the towel /OK /which they would have been if they were linked to him	
298		T A.
299	would they	
300		or L A/ LA
301		LA confidential
302		S1:A
303		S2:A *(question)*

304		S1: Anthony
305		S3 :Anthony's his first name
306		****
307	well we can't know her age/ about the age of his wife and check her height and her build and /oh well we knew that she is his wife	
308		yer/ but still they didn't say
309	yer yer anything else	
310		neighbours
311	yer OK	
312		they went on a trip
313	yer so we're looking for this kind of thing like uh eyewitness accounts /so we go back into interview mode you know the neighbours/ so long as we get to establish the pair were together/ what's the most important thing about them being together	
314		that he was with her
315	that he was with her when	
316		July last year
317		at the time of the murder
318		where were you at the night of the 28th August
319		31st August
320		1934
321	right/ OK/ that's what we've got to do/ now you must have seen so many movies where they say can you explain where you were on the ** on the 25th of you know ** /OK alright so we've got to try to establish his location/ to try and create those links /well let's see how the detectives go /and we go over to where am I/ how do the detectives finally work it out /do they do they create that thing/ look at source 11	
322		Source 11/ a confession
322	a confession/ OK	
324		oh really a

325	it's 1940 /the dental records were checked against her /on the back of the page the previous page/ Linda's and they matched perfectly/ identification of 3 small moles on the shoulder from photographs of the body that were on file at the police police archives/ that's put her identity beyond doubt/ Antonio a waiter at Romanos' restaurant was arrested and confessed to the crime/ he was arrested and confessed to the crime	
326		why did he confess sir
327	I suppose he was it was/ you know/ a sense of guilt	
328		pretty obvious
329		he was obviously Italian
330	of Italian descent	
331		** Italian
332	Australian Italian/ my name is a Scottish /but I'm not Scottish	
333		my name is **
334		my name is Chris
335		my name is Dan
336	alright/ so with Tony's confession of course it makes the police job of finding out who did it much easier/ but if you look at the evidence that we've got and that we we've been able to construct/ you could construct /you can see that we have begun to build a very convincing argument around the identity of the murderer /depending of course on the information that you would have got from neighbours/ motives/ if in actual fact/ if this initial here matched that initial there/ car skid marks and tyre marks were identifiable as his/ well that somehow these green pyjamas/ green and cream pyjamas with the motifs could be linked to the couple as well	
337		***
338	so all of these things we could have constructed/ maybe even established a motive/ we never did find the motive out	
339		**
340	well OK/ we'll finish at that	

341		why did he do it/ do you know
342		because he was bored
343		no *(laughs)*
344		it was because of the pyjamas
345	he didn't like the pyjamas	
346		yeah/ he didn't like the pyjamas
347		yeah/ and he wanted to get rid of a bag and towel too
348		haircut and he had a **
349	face me/ what was the most important part of the process as far as the police were concerned/ what was the thing that gave them the major break through	
350		the confession
351	well that makes the job easier/ but what was the thing that changed /but what was the thing that changed the whole process of solving this crime	
352		the dentist
353	OK/ but go further	
354		they didn't get it
355	you're on the right track though/ as soon as they identified the victim it exposed immediately the husband/ he was that he was a suspect/ they could then start obviously to construct more clues around that person and test whether it's you know this being the >>>> *(tape ends) ... (new tape)*of Italian extract why would it have been difficult to go back to Italy in 1944	
356		because of the German occupation
357	yeah it was occupied by the/ ruled by Fascists and occupied by the Germans/ there were a few British and American troops busy blowing the place apart in 1949/ he could have changed identities/ why do you think he didn't stay	
358		because it would look suspicious

359	yeah/ he was confident in the fact that while they couldn't identify his wife he was safe/ but once they confronted him obviously	
360		he collapsed
360	he just collapsed/ they found out	

Appendix 3: Transitivity Analysis: What is History? lesson

Episode 1 - review of key words and setting task

1. so we're working in groups for the one period of History
    Actor Pr:mat   Circ:manner   Circ:time

2. you'   ve had   so far   at school
  Carrier/possessor Pr:poss. Circ:time Circ:loc

3. see
  Pr:mental

4. if you can find out those people [[who were scribing for their group]]

Pr:mat

Circ:role

    Senser Pr:mental   Phen.

5.we got so far
  Carrier Pr:int Circ/attribute

6.can somebody give us   a little summary of the sorts of things [[we were talking about]] in relation to
                                     Sayer Pr:verbal

              sayer Pr:verbal Receiver   Verbiage

                                                  Circ:m
atter

[[what is history]]]]
  Tk Pr:int Vl

7.we wrote down a list of words
  Actor Cr:mat   Goal

8. S: history was a series of events [[that occurred in the past]]
                               Pr:mat(hist)   Circ:time
       Vl   Pr:int Tk

9.T: OK we said
       Sayer Pr:verbal

10.history was a series of events [[that occurred in the past]]
                              Pr:mat(hist)   Circ:time
       Vl Pr:int Tk

11.S: um changes that (incomplete clause)

12.Oh yeah these are the things [[we have to remember]] change effect past people events causes
                        Senser Pr:mental
       Tk Pr:int   Vl

13.OK these are the words [[we picked out of these sorts of sentences]] weren't they++ (tag)
                     Actor Pr:mat Circ:matter
       Tk Pr:int Vl

14.do you remember that
       Senser Pr:mental Phen.

15.gee I didn't
       Senser Pr:mental

16.I'd forgotten all those things
  Senser Pr:mental Phen.

17.OK changes effects past people
       Minor clause

18.( )words [[that relate specifically to the discipline of history]]
           Carrier pr:int Circ:extent/attribute
     Vl

19.is there anything [[that we've thought about]]
               Senser Pr:mental
  Pr:existential   Existent

20.we can add to those
  Actor Pr:mat Goal

21.is there anything [[that you wrote down last week]]whether in your groups or individual
                     Actor Pr:mat Circ:time
  Pr:existential   Existent   Circ:role

22.when you were thinking about it

Senser Pr:mental   Phen

23.try to explain
   Pr:verbal

24.what we do as historians
   Goal Actor Pr:mat Circ:role

25.or describe
       Pr:verbal

26.what history is
   Tk   Vl   Pr:int

27.just quickly then see
        Circ:manner Pr:mental

28.if you can write down a descriptive sentence about history
    Actor   Pr:mat   Goal   Circ:matter

29.to include all those words
       Pr:poss   Attribute/possessed

30.now that's a change
      Carrier Pr:int Attribute

31.you've got five minutes
   Carrier Pr:poss Circ:time/attribute

32.( ) five minutes
       Circ:time/attribute
33.to write a sentence
      Pr:mat Goal

34.describing
   Pr:verbal

35.what history is
   Tk   Vl   Pr:int

36.using all those words
   Pr:mat   Goal

37.and we might come up with a definition mightn't we ++ (tag)
       Sensor   Pr:mental   Phen

38 .if we do that
    Actor Pr:mat Goal

39.so (…) a sort of a definition
        Phen

40. if you like
     Senser Pr:mental: affect

41.using all those words about history
   Pr:mat Goal   Circ:matter

42.history is
    Vl Pr:int

43.maybe is that a good start
        Pr:int Carrier Attribute

44.S: uh yourself
        Minor clause

45.no just by yourself
        Minor clause

46.( )five minutes
            Circ:time/attribute
47. see
    Pr:mental

48.how   you go
    Circ:matter Actor Pr:mat

49.will we get a definition folks
        Carrier Pr:poss Attribute

50.history is   about people [[who have affected the past]]
                            Actor Pr:mat(hist) Circ:time
    Carrier Pr:circ Attribute/circ

51.and caused
        Pr:circumstantial (hist)

52.um this is very sophisticated
        Carrier Pr:int Attribute

53.in change it's pretty hard
            Carrier Pr:int Attribute

54. >cause he's going further up the blackboard
            Actor Pr:mat Circ:loc

55.um chang in the present
        Minor clause

56.that's pretty good pretty good
    Carrier Pr:int Attribute

57.is he right
    Pr:int Carrier Attribute

58.S: no
    Minor clause

59.gee you're a hard bunch of critics
        Carrier Pr:int Attribute

60.is he right
    Pr:int Carrier Attribute

61.S: yes sir
        Minor clause

62.history is about people [[who have affected the past]]
                            Actor   Pr:mat (hist) Goal

Carrier Pr:circ Circ:matter/attribute

63.and caused   a change in the present
  Pr:causative:circumstantial (Hist) Attribute Circ:loc

64.it certainly is isn't it ++ (tag)
   Carrier Pr:int

65.think how often
    Pr:mental Circ:loc

66.we in actual fact study significant people in history
    Senser   Pr:beh Phen

67.if we wander into a bookshop
    Actor   Pr:mat Circ:loc

68.and wander through the most popular section of the bookshop
        Pr:mat Circ:loc

69.we more often than not find books about people
    Actor   Circ:extent   Pr:mat goal   Circ:matter

70.which are called
        Pr:verbal

71.**S: biographies   ** marks incomplete clause that responds to cued elicitation
        Minor clause

72.biographies yeah
    Minor clause

73.( )one of the most popular non fiction types of book and biography of for people
                                Tk

74[[who are interested in
        Senser Pr:mental

75 how people affected their time
        Actor Pr:mat (hist) Goal

76and affect the present]] OK
        Actor Pr:mat (hist) Goal

77.now is that all [[that history is about]]
                    Attribute/circ carrier Pr:circ
      Pr:int Tk Vl

78.can we maybe change a little
        Pr:mat   Circ:extent

79.just so we'll look at another definition
        Senser   Pr:behav. Phen

80.using the same words
     Pr:mat   Goal

81.maybe um look at it maybe slightly differently
        Pr:beh Phen   Circ:manner

82.anybody got another sentence
  Carrier/poss Pr:poss Attribute/possessed

83.changes in people affect   <u>time</u>   Time 'affectum' - already existing before the process
     Actor Circ:matter Pr:mat (hist) Goal/range

84.which causes   changes in people   Change 'effectum' - no prior existence it is 'made'
  Actor Pr:causative:circumstantial (hist). Goal Circ:matter

85.affects   times
   Pr:mat(hist) goal/range

86. causes history
    Pr:causative:circumstantial (hist)Value

87.can you explain that a little more
      sayer Pr:verbal Verbiage Circ:extent

88.S: [[what people do]] makes history
     Goal Actor Pr:mat
       Tk   Pr:causative:circ(hist)   Vl

89.what people do
   Goal Actor Pr:mat

90.OK put that in brackets after
       Pr:mat Goal Circ:manner Circ:loc

91.isn't that too similar to the top one isn't it ++ (tag)
   Pr:int Carrier Circ:manner/attribute

92.anybody got another
  Carrier Pr:int Attribute

Episode 2 - Establishing a definition for History

93.so history   is   about the past people
      Carrier Pr:circum Circ:matter

94 [[who have changed
     Actor Pr: mat (hist)

95 and affected our lives]]
     Pr:mat (hist)

96.alright then what's this
         Tk Pr:int Vl

97.describes this word
     Pr:verbal Verbiage

98.take those 3 sentences   (ie look at)
  Pr:beh Phenom

99.which is   the strongest word amongst all those things

   Tk Pr:int Vl   Circ:matter

100. that describe [[what history is]]
       Tk Vl   Pr:int

Pr:verbal

101 <do you think >
          Senser Pr:mental

102. ( )is the study of
          Pr:int   Tk

103.**S: the past   ** marks incomplete clause that responds to cued elicitation
          Minor clause

104.do you think
          Senser Pr:mental

105. that's the strongest word
          Tk Pr:int Vl

106.OK let's rate them
          Actor Pr:mat Goal

107 .who says
        Sayer Pr:verbal

108.the strongest word is past
          Vl   Pr:int   Tk

109.history   is   about the past
          Carrier Pr:circ.   Circ:matter

110.it seems
        Carrier Pr:int

111.we've got a lack of confidence here
        Carrier/poss Pr:poss Attribute/poss

112.( )a nice strong word[[to describe]]
                              Pr:verbal
          Attribute

113. what history is
        Tk Vl   Pr:int

114.is it change
        Pr:int Vl Tk

115.who likes change

        Senser Pr:mental Phen

116.yeah I like   that one too
          Senser Pr:mental:affect Phen

117.yeah I like change
          Ssenser Pr:mental:affect Phen

118.if we study change
          Behav Pr:behav Phen

119. we automatically have to do what

Actor Circ:manner Pr:mat Goal

120.yeah we've got to start looking at record books of the past
Senser   Pr:mental   Phenom   Circ:loc

121.we've got to start looking at what else
Senser   Pr:mental   Phenom

122.if we study change
Behaver Pr:beh Phenom

123.you've got to look at the past
Behaver Pr;behav   Phenom

124. to be able to describe what changes [[have occurred]]
pr:mat(hist)
Pr:verbal

125.what else have we got to do
Goal   Actor Pr:mat

126.look at people
Pr:behav Phenom

127.how people have changed
Circ:matter Actor Pr:mat

128.yeah so in describing change
Pr:verbal Verbiage

129. we are in actual fact describing people
Sayer   Pr:verbal Verbiage

130.what do we do
Goal Actor Pr:mat

131.when we look at change
Behav Pr;behav Phenom

132. S: in what way it's   affected   us
Circ:manner Actor Pr:mat (hist) Goal

133.yeah right in actual fact how that change has affected us
Circ:matter Actor Pr:mat (hist) Goal

134.S: the causes
Minor clause

135.yeah what causes the change
Actor Pr: causative Cir(hist)Goal

136.that's[[why I like that word as the strongest word [[to describe it]]]]
Circ:reason Senser Pr:mental Phen Circ:matter   Pr:verbal Phenom
Tk pr:int Vl

137.history   is   about the study of change
Carrier Pr:circ   Attribute/circ

138. and ( )[[what causes it]]
Actor Pr:causative circ(hist) goal

Attribute

139.( ) [[how it has affected people's lives etc etc]]
       Circ:matter Actor Pr:mat (hist) Goal
       Attribute

140.something like that
     Minor clause

141.cause that's [[what historians are looking at]]
            Phen. Senser   Pr:mental
    Tk   pr:int Vl

142.changes
     Minor clause

143. what caused it
     Tk Pr:causative circumstantial (hist) Vl

144.OK so we go through a process don't we++ (tag)
      Actor Pr:mat   Range

145.we study something in history we...
  Beh Pr:beh Phenom

Episode 3 - What historians do - detective analogy

146.well what's the first thing [[historians do]]
                   Actor Pr:mat
    Tk Pr:int Vl

147.imagine yourself
   Pr:mental Senser

148. to be a professor of History at the University of NSW
      Pr:int Attribute Cir:matter Circ:loc

149.and you decide
     Senser Pr:mental

150.to write a new thesis
     Pr:mat Goal

151.what would be the first thing [[you would do]]
                   Actor Pr:mat
  Tk   Pr:int Vl

152.S: um...get lots of (facts??)
      Pr:mat Goal

153.well possibly but there's something [[you do before that]]
                Actor Pr:mat Goal
       Pr:existent Existent
154.S: investigate
    Pr:mat

155.S: like investigate
     Pr:mat

156.what

Minor clause

157.S:( ) things around us anything
        Minor clause

158.S: ( )any of the important things [[that are happening nowadays]]
                                       Pr:mat Circ:loc
        Phenom

159.yeah you'll still have to be a little bit more specific more centred more focused
        Carrier Circ:loc Pr:int Attrib

160.S:( ) things[[that affect the whole world like]]
                  Pr:mat (hist) Goal
    Phenom

Episode 4 -Event focus parallels detective and historian analogy what took place scientific records

161.alright OK
   Minor clause

162.I think
   Senser Pr:mental

163. our historian would start off with just choosing an event
        Actor   Pr:mat   Goal

164.OK to begin our investigation for example
               Pr:mat   Goal

165.who is
   Carrier Pr:int

166.well think of someone [[who investigates something]] a detective
                         Actor Pr:mat   Goal
        Pr:mental Phenom   Phenom

167.there has to be an event for him [[to investigate]] OK
                                   Pr:mat
           Pr:exist   Existent Receiver

168.so what event does a detective investigate
              Goal   Actor Pr:mat

169.a crime a murder a robbery whatever
        Minor clause

170.so he chooses
        Actor Pr:mat

171.an historian chooses an event
        Actor Pr:mat   Goal

172.his next his next task is what
               Vl Pr:int   Tk

173.S: oh finding the (location)
        Pr:mat   Goal

174.OK so he finds out presumably

Senser Pr:mental

175.what took place
        Actor Pr:material

176.( )sometimes sometimes easy sometimes difficult isn't it

                    Attribute/circ   Pr:int carrier

177. to find out[[what took place]]
        Pr:mental Goal Pr:mat

178.but it's a descriptive task
        Carrier Pr:int Attribute

179.if you took for example
        Actor Pr:mat

180.if we use the example of Princess Diana's death
        Actor Pr:mat   Goal

181.do we really know
    Senser Pr:mental

182.what happened
        Goal Pr:mat

183.S: no
        Minor clause

184.we've got a reasonable idea
    Carrier/poss Pr:poss Attribute/poss

185.the poor old detectives have a difficult time
    Carrier   Pr:int   Attribute

186. getting all the information
        Pr:mat Goal

187.sometimes historians have the same sorts of difficulty
                    Carrier/poss Pr:poss   Attribute/poss

188.what do we have
  Vl/poss Pr:int Tk/poss

188.to rely on
    Pr:mental

189.what the source of
        Minor clause

190.what are we looking for
    Phen   Senser Pr:mental: perception

191.S:( ) information about the event
        Phenom   Circ:matter

192.what else
        Minor clause

193.what is another word [[that could be used
                                          Pr:mat
          Tk Pr:int Vl

194. to describe information]]
          Pr:verbal Phenom
          Vl
195.S: dates
          Minor clause

196.well as far as the detective
          Minor clause

197.S: facts
          Minor clause

198.information facts we're looking for the facts
                              Senser Pr:mental Phenom

199.what do detectives call this
          Phenom Sayer Pr:verbal Phenom

200.S: evidence
        Minor clause

201.evidence so a historian doesn't he get his evidence from a whole variety of sources
doesn't he++ (tag)
                        Actor   Pr:mat   Goal   Circ:extent

202.what sort of sources does a detective use
          Goal   Pr:mat Actor

203.a detective is investigating Diana's death
          Senser   Pr:mental   Phenom

204.what's the sort of sources [[he uses]]
                                  Actor Pr:mat
      Tk   Pr:int   Vl

205.S: eyewitnesses
          Minor clause

206.eyewitnesses so we're starting to just
                      Actor   Pr:mat

207.using the detective analogy
          Pr:mat   Goal

208.we're starting to construct whole series of words [[that describe
                                                  Pr:verbal
          Actor   Pr:mat   Goal

209.what historians are doing]]
          Goal Actor Pr:mat

210.and that was our other task wasn't it++ (tag)
          Tk Pr:int Vl

211.to describe

Pr:verbal

212.what historians do
       Actor Pr:mat

213.so in order to investigate an event
             Pr:mat   Goal

214.the detective or the historian works out what took place
                       Senser Pr:mental   Phenom

215.he gathers information from a whole series of sources
   Actor Pr:mat   Goal Circ:loc

216.tries to gather facts and evidence
       Pr:mat   Goal

217.so he seeks witnesses
       Actor Pr:mat Goal

218.in the case of Diana's death it would be eyewitnesses
       Circ:matter   Carrier Pr:int Attribute

219.what other information do they then start to gather
      Goal   Actor   Pr:mat

220.S: um they like try to work it out
          Senser Pr:mental Phenom

221.S: they could have educated guesses
       Tk/poss Pr:poss Vl/poss

222.educated guesses how do they make educated guesses
        Range   Senser Pr:mental   Range

223.what sort other than witnesses what do they start to do
        Goal   Goal Actor Pr:mat

224.S: start like writing down the names
         Pr:mat   Goal

225.and working out things like
        Pr:mental

226.alright OK they if you like double check on the witnesses
        Actor   Pr:mat   Circ:matter

227.and they look for [[what they call]] collaborative evidence
            Sayer Pr:verbal
   Sensor   Pr:mental   Phenom

228.Ok what else do they use other than collaborative evidence
       Actor   Pr:mat   Goal

229in Diana's death what did they use
   Circ:matter   Goal   Actor Pr:mat

230.they talked about it ad infinitum on the news
   Sayer Pr:verbal Phenom Circ:extent Circ:loc

231.S: look in the car
        Pr:mat Circ:loc

232.they look at objects
        Pr:mental Circ:matter

233.S: they examine
        Actor Pr:mat

234.they examine
        Actor Pr:mat

235.let's call it the scene of the crime so to speak
        Sayer Pr:verbal Phenom

236.OK how do they do that
        Circ:manner Actor Pr:mat goal

237.ask
    Pr:verbal

238.what sort of things do (incomplete sentence)

239.they looked at the car
        Actor Pr:mat Cir:matter

240.so why are they looking at the car
        Circ:reason Actor Pr:mat Circ:matter

241.who was in the car
        Carrier Pr:int Circ/attribute

242.what do they use
        Goal Actor Pr:mat

243.S: um computers
        Minor clause

244.yeah they can (incomplete clause)

245.yeah in actual fact they can use witnesses for a computer reconstruction
                        Actor Pr:mat   Goal   Circ:matter

246.to explain
        Pr:verbal

247.what happened in the tunnel
        Goal Pr:mat   Circ:loc

248.as they careered through it
        Actor Pr: mat   Circ:loc

249.a car
    Minor clause

250. that explains
        Pr:verbal

251.S: how it happened
       Circ:manner Actor Pr:mat

252.what else
       Minor clause

253.who does it
       Actor Pr:mat Goal

254.S: police scientist
       Minor clause

255.police scientists yes
       Minor clause

256.forensic scientist forensic experts etc etc
      Minor clause

257.S: they hypothesise
       Senser Pr:mental

258.they hypothesise
      Senser Pr:mental

259.yeah they do that too
         Senser Pr:mental

260.what other references do they use
       Goal   Actor Pr:mat

261.S: check with the paperazzi
       Pr:mat Circ:accompaniement

262.yes they try to look at photos
        Senser   Pr:mental Phenom.

263.what else
     Minor clause

264.scientific evidence what else
       Minor clause

265. S: fingerprints
        Minor clause

266.they took the blood alcohol level of the driver and all that sort of thing
       Actor Pr:mat Goal   Circ:matter

267.so all that scientific evidence
        Minor clause

268.to try and piece it together
      Pr:mat   Goal Circ:manner

269.what sort of sources would an historian use
       Goal   Actor Pr:mat

270.because we're now talking about an event [[that is something that's taken place]]
                                    Tk Pr:int Vl

              Sayer Circ:loc Pr:verbal   Circ:matter

271.we may have eyewitnesses
      Carrier/poss Pr:int Attribute/poss

272.we may not
Carrier/poss Pr:int

273.so other than eyewitnesses what else does an historian use
             Circ:accompaniement Goal   Actor Pr:mat

274.S: records
       Minor clause

275.records what sort of records
      Minor clause

276.S: books
      Minor clause

277.like what
      Minor clause

278.S: encyclopedias
      Minor clause

279.S2: in the bible
      Minor clause

280.could be in the bible
      Pr:int Circ/attrib

281.I don't know
      Senser Pr:mental

282.what we're studying
      Phenom Beh Pr:beh

283 S: police records
      Minor clause

284.we could use police records
      Actor Pr:mat Goal

285.but what other types of records could we use
      Goal   Actor Pr:mat

286.S: um the (facts??)
      minor clause

287.he could go to the source of the crime
      Actor Pr:mat Circ:loc

288.he could use archaeological evidence
      Actor Pr:mat Goal

289.OK and that's information
       Tk Pr:int Vl

290. [[gathered by archaeologists

          Pr:mat   Circ:role
        Vl
291.sifting through buildings]]
        Pr:mat   Circ:loc
        Vl

292.in the case of us if you were studying aboriginal society
       Circ:role   Beh. Pr:beh   Phenom

293.you'd go through the middens
       Actor Pr:mat Goal

294. and things like that
       Minor clause

295.( )records such as official records [[kept by governments]]
                                      Pr:mat
       Goal

296.what's records [[kept by governments in Australia]] called
                 Pr:mat Circ:role   Circ:loc
   Tk   Pr:int   Vl

297.does anybody know
       Senser Pr:mental

298.it's a special book
     Carrier Pr:int Attribute

299. that anyone can read
       Actor Pr:mat

300.that is spoken
       Pr:verbal

301.you can actually read every word [[that is spoken]]
                              Pr:verbal
   Actor   Pr:mat   Goal

302.S: hansard
       Minor clause

303.hansard has recorded every word [[that is spoken]]
                            Pr:verbal
   Actor   Pr:mat   Goal

304.so you put all those official records
       Actor Pr:mat   Goal

305.that are available to the historian
     Carrier Pr:int   Circ/attribute

306.the births and deaths certificates
           Minor clause

307.S: newspapers
       Minor clause

308.newspapers magazines photographs film
       Minor clause

309.since the invention of the camera we've got a whole series of events
              Circ:loc   Carrier/poss Pr:poss Attribute/poss

310.that have been recorded visually for us
             Pr:mat   Circ:manner Circ:accompaniement

311.there's a whole series of visual eyewitness oral accounts
     Pr:exist   Existent

312. ( )unending unending literally unending number of sources and types of sources
                Existent

313.a historian could possibly use
     Actor Pr:mat

314.depending on events [[that is analysed]]
                          Phenom Pr:mental
    Pr:circum   Circ:matter

315.S: if an historian is studying ancient history
        Behav Pr:beh   Phenom

316.he could read hieroglyphics
   Actor   Pr:mat Goal

317.he could go to .
   Actor Pr:mat

318.the hieroglyphics will tell you
       Sayer   Pr:verbal Benef.

319. what you want to know
     Phenom Senser Pr:mental

320.T: it would be nice
      Carrier Pr:int Attribute

321. if it did
     Sayer Pr:verbal

322.but unfortunately it doesn't
               Sayer Pr:verbal

323.S: it could tell the stories
     Sayer Pr:verbal Verbiage

324.T: yes it does
      Pr:verbal

325.but it wouldn't tell you everything[[you want to know]]
                            Senser Pr:mental
    Sayer Pr:verbal   Verbiage

326.S: historians
     Minor clause

327.yeah historians use other historians
          Actor Pr:mat Goal

328.for example if I started to study a particular event in Australian history
                    Beh   Pr:beh   Phenom

329.I would go to some famous historian Australian historian [[who'd already written about it]]
                                                      Actor Pr:mat   Circ:matter

 Actor Pr:mat   Circ:role

330. and see
       Pr:mental

331.what they had already written about it
    Goal Actor   Pr:mat   Circ:matter

332.so historians use other historians quite regularly
          Actor   Pr:mat Goal   Circ:loc

333.to understand an event
       Pr:mental Phenom

334.OK so we studied
       Beh Pr:beh

335.Ok what took place
        Goal   Pr:mat

336.we choose an event
       Actor Pr:mat Goal

337.and we ask the question
        Sayer Pr:verbal Verbiage

338.what took place
    Actor Pr:mat

339.that's the first thing [[we did]]
                  Actor Pr:mat
  Tk Pr:int Vl

340.then what would be asked
       Verbiage Pr:verbal

341.we hypothesis about what
   Senser Pr:mental Circ:matter

342.someone mentioned hypothesising
       Sayer Pr:verbal Verbiage

343.S: why or who
       Minor clause

Episode 5 – how it happened

344.let's start with how
       Actor Pr:mat Circ:cause

345.in the case of Diana' death we've got all[[we can collect]]
                                      Actor Pr:mat
       Circ:matter   Carrier/poss Pr:poss Attribute/poss

345. ( )all the information from the eyewitnesses photographs forensic tests blood alcohol levels of the driver
etc
                    Attribute/poss

346.give an explanation of why on that night
        Pr:verbal Verbiage Circ:matter Circ:loc

347.that car crashed
        Actor Pr:mat

348.causing her to die
        Benef Pr:causative:circ (hist)

349.the fact [[that she had no seat belt]] may have been a contributing factor
                Carrier/poss Pr:poss Attribute/poss
            Carrier   Pr:int   Attribute

350..all that evidence was collected
        Goal   Pr:mat

351.in order to explain
        Pr:verbal

352.how the whole event occurred
        Circ:manner Actor Pr:mat (hist)

353.that led to her death
        Pr:circ Attribute

354.then there's another question [[to be asked]]
                                        Pr:verbal
        Pr:existential Existent

Episode 6 - Why it happened

355.S: why
        Minor clause

356.why
    Minor clause

357.that's probably the most difficult
    Tk Pr:int   Vl

358.if we take Diana's death as an example

        Senser Pr:mental phenom Circ:manner

359.what's one of the popularly held beliefs about why
        Tk Pr:int   Vl   Circ:reason

360.S: it was the paperazzi
        Tk Pr:int Vl

361.yes a popular explanation is[[it was the hounding of the paparazzi]]
                                    Tk Pr:int Vl
        Attribute   Pr:int   Carrier

362.who constantly dogged Diana
        Actor Circ:loc Pr:mat Goal

363.where she was
     Circ:loc Carrier Pr:circ

364.and people explain the event
        Sayer Pr:verbal Phenom

365. ( ) [[why it occurred]]
        Circ:cause Actor Pr:mat(hist)

366.because of the sequence of events what and how placed into a course of action because of that
        Circ:cause   Goal   Pr:mat Circ:loc   Circ:cause
overdegree of interest in her movements

367.and so people explain the events
        Sayer Pr::verbal Verbiage

368.now that's [[what historians do]] as well
        Goal Actor Pr:mat

        Tk Pr:int Vl

369.so we can write those things down can't we++ (tag)

        Actor Pr:mat Goal

Episode 7-rationale for studying history

370.S: sir (*********)

371.well a lot took place
        Actor   Pr:mat

372.well almost automatic
        Minor clause

373.what went in there
        Actor Pr:mat Circ:loc

374.we can write those things down
        Actor Pr:mat Goal

375.we'll be constantly asking those questions
        Sayer   Pr:verbal Verbiage

376.it will be related to the past
        Pr:circumstantial Attribute/circ:matter

377.it will be related to the change
        Pr:circumstantial Attribute/circ:matter

378.and something else [[that you all included]]
                Actor Pr:mat
        Attribute

379.most of you included in your one little sentence
        Actor Pr:mat   Circ:matter

380.somehow we've   got to relate   that

Agent/attributor Pr:circumstantial   Carrier

381.what's the point [[of looking at things in the past]]

Pr:mental Phenom Circ:time

Tk Pr:int   Vl

382.what's the point [[of looking at the past]]

Pr:mental   Phenom

Tk Pr:int   Vl

383.S: discovery

Minor clause

384.S2: to see

Pr:mental

385.how it's changed the present

Circ:extent   Pr:mat (hist) Goal

386.to see

Pr:mental

387 how its changed the present

Circ:extent   Pr:mat (hist) goal

388.it's all very well

Carrier Pr:int Attribute

389.but unless we can relate   those changes to [[how it affects us]]

Circ:extent Pr:mat (hist) Benef.

Agent Pr:circumstantial   Carrier   Attribute

390.or [[how it may potentially affect our future]]

Circ:extent Actor   Pr:mat (hist) Goal

391.it ain't worth doin'

Actor Pr:mat

392.OK so historians always relate   things to the impact on the present

Agent/attributor Pr:circumstantial Carrier   Attribute

393.if I was to trying to explain

Sayer Pr:verbal

394.who I   was   as a person

Carrier Pr:int Circ:role

395.I would have to explain my history

Sayer Pr:verbal Verbiage

396.if I wanted to understand

Senser Pr:mental

397.who I am as a person

Carrier Pr:int   Circ:role

398.I've got to understand my history

Senser Pr:mental   Phenom

399.and this is [[why history is so important]]
                       Circ:reason Carrier Pr:int Attribute
       Tk Pr:int Vl

400.and [[why this word here is so important]]
             Circ:reason Carrier Circ:loc Pr:int Attribute
         Vl

401.if I want to understand my country
      Senser Pr:mental   Phenom

402.I've got to understand its history
      Senser Pr:mental Phenom

403.if I want to understand the world
       Senser Pr:mental Phenom

404.and the way [[it is]]
                 Pr:int
   Phenom

405.and all the troubles and strifes and good things about the world
       Phenom

406.I've got to understand its history
   Senser   Pr:mental Phenom

407.if I can't understand modern politics
     Senser Pr:mental   Phenom

408.unless I understand the politics of the past
          Senser Pr:mental Phenom

409. ( )same thing
       Vl

410.so it is absolutely essential
        Carrier Pr:int Attribute

411.if I want to understand our world
       Senser Pr:mental Phenom

412.the world [[we live in now]]   and the future and ourselves
         Actor Pr:mental Circ:loc
  Phenom

413.to understand the history of it
       Pr:mental Phenom

414.unavoidable unfortunately gentlemen unavoidable
       Attribute

415.any questions
      Minor clause

Appendix 4: Transitivity analysis: The pyjama girl mystery lesson

Episode 1 - Turns 1-96a
Sequence1

1.you   have   three clues three sets of clues three sources yesterday
   Carrier/poss Pr:int   Attribute/poss

2.and we the first half we   set out actually just to identify bits of information
       Actor   Pr:mat   Goal
      [that you would need]
          Senser Pr:mental

3.to reveal something about this murder
       Pr:int   Vl

4. now the first problem [to solve] if the first problem [to solve] is   what

                              Vl   Pr:int   Tk
5. what is the first problem [we have got to solve]
                             [Actor Pr:mat]
      Tk   Pr:int   Vl

6. S: her identity
        Minor clause

7.what is the identity OK
   Vl   Pr:int   Tk

8. so that is what all these clues hopefully but not all of them will
     Tk Pr:int   Vl

9.but most of these clues should be aimed at establishing this girl's identity
            Actor   Pr:mat   Goal

10 so the task [[I set you]] is [[to ask]] [[think about// how you might find more about
               Pr:mental   Pr:verbal Pr:mental   Phenomenon

               Vl   Pr:int   Tk

    each one of these]]

11. we will leave this one out
   Actor Pr:mat.   Goal

12. to start with
        Pr:mat.

13. because that's not going to help us   with her identity
           Actor   Pr:mat.   Goal   Circ:matter

14.we   know
   Senser Pr:mental

15. that her identity has been masked by the mutilation of her face

          Goal   Pr:mat.   Actor

16. and the body is being burnt
          Goal   Pr:mat.

17. now alright so let's start off with a the cream and green pyjamas with the dragon
                        Actor Pr:mat.   Circ:accompaniement
motif

18.now … we'   ve got   that that one have we++(denotes a tag)
          Tk/poss Pr:int   Vl/poss

19.how are   we going to use that piece of equipment
      Circ:manner   Actor   Pr:mat.   Goal

20.if you like
        Senser Pr:mental

21. to try to identify   her
          Pr:mat   Benef.

22.St: um to find out
                  Pr:mat

23.what made her wear it
      Agent Pr:mat. Actor   Goal

24.and possibly where   it was bought from
                  Circ:loc.   Goal Pr:mat.

25.OK …OK so identifies the brand name and the places
                  Pr:mental   Phenomenon

      [[where you could]] its outlets locations or its outlets [[where you can buy it]] what
                                                    Circ:loc   Pr:mat Goal

      shops [[you can buy it]]
              Actor Pr:mat Goal

26.S: sir I reckon
              Senser Pr:mental

27. where that type of pyjama could be bought
          Circ:loc.   Goal   Pr:mat.

28. how old they   are
        Attribute Carrier   Pr:int

29. you can usually tell
    Senser   Pr:mental

30. how   it could give you clues
      Circ:manner Actor Pr:mat. Benif. Goal

31.so it could be traced
      Goal   Pr:mat.

32.because if they're new
              Carrier Pr:int Attribute

33.a shop assistants might remember [[selling them]]
     Senser   Pr:mental   Phen.

34.yep, yep
          Minor clause

35.(Unintelligible)

36.OK alright
          Minor clause

37.fingerprints
          Minor clause

38.I dont know
  Senser Pr:mental

39.if you can pick up fingerprints from material
         Senser   Pr:mental   Phen.

40. ah but ( )anything else about it
                   Existent

41.what   have I   got   here
     Poss/ Vl   Poss/Tk Pr:int Circ:loc.

42.um a dragon is Chinese
         Carrier   Pr:int Attribute

43.so it she might be Chinese
      Carrier   Pr:int Attrib.

44.possibly, that's a guess though isn't it ++ (tag)
           Carrier Pr:int Attribute

45. at this stage so if we can find the find the brand name, location
        Circ:time   Actor Pr:mat   Goal

46. we'll   do   that first   of the pyjama top OK
    Actor Pr:mat. Goal Circ:time   Circ:matter

47. any experts to help   us   here
          Actor   Pr:mat Goal Circ:loc

48.S: some more experienced detectives, like supersleuths or
          Minor clause

49.possibly ( )any other experts
                Existent

50.S: introduce forensics
      Pr:mat Goal

51.forensics yeah we'll probably need forensic experts won't we++ (tag)
               Senser   Pr:mental   Phen.

52.S:and and you can check on the pyjamas
          Senser Pr:mental Phen.

53. if there was a name or anything
          Pr:existent   Existent

54.well I've done that/ brand name location of outlet
          Actor Pr:mat. Goal

55.S:age of pyjamas
          Minor clause

56.S2:no like a name tag
          Minor clause

57.S3:no like a name tag of the owner
          Minor clause

58.well let's assume
          Senser Pr:mental

59.that's not there
     Tk   Pr:int Circ:loc.

60.or we would know straight away
          Senser Pr:mental   Circ:time

61.now if we find your shirt
          Actor Pr:mat. Goal

62. if we found   [[you murdered]]
          Senser Pr:mental   Phen.

63.and mutilated
          Pr:mat.

64. has your shirt   got   your name tag on it
          Carrier/poss Pr:int Attribute/poss Circ:loc.

65.S: yep
          Minor clause

66.it's   a   pretty new one
   Carrier Pr:int Attrib.

67. well we wouldn't have to go much further would we++ (tag)
          Actor   Pr:mat   Circ:extent

68.no
          Minor clause

69.in case to know
          Pr:mental

70.who you were
          Vl   Tk Pr:int

71. well hopefully unless you pinched the shirt off someone else
                         Actor Pr:mat   Goal   Circ:loc.

72.so we'd probably need a forensic expert
          Senser   Pr:mental Phen

73. so you'd have to look for another source of information
      Senser Pr:mental   Phen.

74. maybe you could analyse the age of the garment
           Actor   Pr:mat   Goal

75.( ) any other experts
          Existent

76.we might ++ (incomplete clause)

77.( ) a dentist
         Existent

78.that we could compare with her teeth
      Actor   Pr:mat   Circ:matter

79.what does a dentist do with pyjamas
    Goal   Actor   Pr:mat Circ:matter

80.******

81.a dentist isn't going to do anything with pyjamas thought is he ++ (tag)
        Actor   Pr:mat   Goal   Circ:matter

82.**alright what about the bag (incomplete clause)

83. the bag was placed over the head and shoulders
      Actor Pr:mat   Circ:loc.

84.S: how they (placed) it around her head
     Circ Actor Pr:mat Goal Circ:loc

85.yeah yeah I think
             Senser: Pr:mental

86. that we can probably lock those two things together can't we++ (tag)
        Actor   Pr:mat   Goal   Circ:loc.

87.yep
   Minor clause

88.is there something about the bag
   Pr:exist   Existent

89.that may be in actual fact clues [[to where she's come from]]OK
                                      Circ:loc Pr:mat
   Carrier Pr:attrib   Attribite

90. you know the only information is that [[we've got a bag over her mutilated face]]
                        Vl   Pr:int   Tk

91. can we bracket the towel with that as well
      Actor Pr:mat goal   Circ:accomp

92.****

93.yep yep

Minor clause

94.S: you can't really tell whose towel [[it was]]

Carrier/poss Pr:int

Senser   Pr:mental   Phen

95.it could be um stolen
   Actor Pr:mat

96.well if we're not told
      Sayer Pr:verbal

97.whose towel it is
    Vl   Tk Pr:int

98.we know
   Senser Pr:mental

99.** it's (incomplete clause)

100.we're told
    Sayer Pr:verbal

101.it's   got   initials on it
   Carrier/poss Pr:int   Attribute/poss   Circ:loc.

102.you can't really tell
   Senser Pr:mental

103.whose towel it was
      Vl   Pr:int Tk

104. it could be stolen from the motel
    Goal   Pr:mat   Circ:loc

105.that's right
   Carrier Pr:int Attribute

106.but what maybe but what does that indicate
         Vl   Vl Pr:int Tk

107. if it was stolen from the motel
     Goal   Pr:mat   Circ:loc.

108.she was asleep in the motel with her bag next to her bed
    Beh.   Pr:behav. Circ:loc.   Circ:accomp. Circ:loc.

109.(Laughs) well let's not jump too far ahead
             Senser Pr:mental Circ:loc.

110.St: well she was asleep in the hotel
      Beh. Pr:behav. Circ:loc.

111. so she had her bag with her
      Carrier/ poss Pr:int Attribute/poss Circ:accomp

112.S2:she might be a poor person
       Carrier Pr:int Attribute

113.**so (incomplete clause)

114.S:she wasn't poor
    Carrier Pr:int Attribute

115.so it's a hotel towel
    Carrier Pr:int Attribute

116.S: check the initials
    Pr:mat Goal

117.** S2: and then you can (incomplete clause)

118.Ss calling out

119.excuse me
    Minor clause

120.S: listen to
    Pr:beh

121.S2: and then you can find out
    Actor Pr:mat

122.what kind of hotel it   is
    Attrib.   Carrier Pr:int

123.and who stayed there
    Actor Pr:mat Circ:loc

124.who   could you find out from
  Circ:means   Actor Pr:mat

125.S: the hotel manager
    Minor clause

126.yeah the receptionist
    Minor clause

127.S: hotel manager
    Minor clause

128.manager people [[who possibly had seen her]]
                Pr:mental Phen.
    Senser

129. OK try and find people [[who possibly saw her]]
                    Pr:mental   Phen
      Pr:mat   Goal

130.where in actual fact in all of these things we're trying to lead ourselves towards
      Circ:matter   Actor Pr:mat.   Goal   Circ:accomp
    finding someone [[who (pause)knew her]]
              Pr:mental Phen

131.to trace back the pyjamas to a certain shop certain location ultimately
      Pr:mat   Goal   Circ:loc.   Circ:loc.   Circ: time

132.what <u>is</u> that <u>going to give</u> us
      Goal   Actor Pr:mat   Benef.

133. who <u>are</u> we <u>trying to trace</u> all this <u>back</u> to
      Recip.   Actor Pr:mat   Goal

134.S:her parents
       Minor clause

135.no
        Minor clause

136.S:I reckon the country
      Senser Pr:mental Phen

137.like she lived in----
         Actor Pr:mat

138.S2: where she might have lived
        Circ:loc. Actor Pr:mat

139.maybe we're looking for s-s-something
         Senser Pr:mental Phen.

140.we're looking for ultimately her identity
      Senser Pr:mental   Phen

141. we're trying to reveal her identity
      Senser   Pr:mental   Phen

142. the pyjamas alone <u>aren't going to reveal</u> her identity
          Tk   Pr:id   Vl

143. where she   got   them from
     Circ:loc Actor Pr:mat Goal

144. are we looking for
       Senser Pr:mental

145.S: where she lives what town
        Circ:loc Actor Pr:mat. Goal

146.yer ultimately but that's not necessarily going to tell us
                            Pehnom   Pr:verbal rec.
147.who she is
        Vl   Tk   Pr:int

148. S: yer but if we find the right town
              Actor Pr:mat Goal

149. her mother might live there
      Actor Pr:mat   Circ:loc.

150.and we could show   her   her body
        Actor Pr:mat Client Goal

151.S2: yeah
       Minor clause

152.someone [[who knows her]]

Senser   Pr:mental

153. we're trying to identify a witness aren't we++ (tag)
      Actor   Pr:mat   Goal

154.her identity yeah it could be her mother
                  Tk   Pr:int   Vl

155. the pyjamas are not necessarily going to lead us to her mother
            Actor   Pr:mat Goal   Circ:loc.

156.S: no but the body
            Minor clause

157.we're looking for somebody an eyewitness
      Senser Pr:mental   Phen

158.that can say
      Sayer Pr:verbal

159. **that yes this girl could (incomplete clause)

160.that fits this description on such and such a date
      Tk Pr:int   Vl   circ: time

161.and if you've got a sales docket
          carrier/poss   pr:int attribute/ poss

162. they might be able to supply a name
        actor   pr:mat   range

163. so we are looking for these witnesses alright
        Senser   Pr:mental   Phen.

Sequence 2

164.sir

165.( )anything else about this equipment
                  Existent

166.S:I was just saying
        Sayer Pr:verbal

167.what you were saying
      Verbiage Sayer Pr:verbal

168. to try and find out um people [who knew her]
                                          Pr:mental Phen
            Pr:mat   Goal

169. I don't think
      Senser Pr:mental

170.that ??will is necessarily the case ***
            Tk   Vl

171.it could be an alibi??
      Carrier Pr:int Attrib

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172.that's a possibility
     Carrier Pr:int Attrib

173.but we're going to try and close our possibilities down haven't we OK++ (tag)
         Actor   Pr:mat   Goal

174.S:sir what will happen
            Actor   Pr:mat

175.if that pyjama was mass produced
         Carrier   Pr:int Attrib

176. and sold everywhere
        Pr:mat Circ:loc.

177.yeah well I guess we're up the creek aren't we++ (tag)
                             Vl Pr:int Tk/circ

178.S: yes
     Minor clause

179.S:****

180.yes
     Minor clause

181.S1: if it was very common
       Carrier Pr:int Attrib

182.**and everyone had like (incomplete clause)
         Carrier Poss Pr:int

183.well yes that   makes   the task so much more difficult
         Assigner Pr:int   Carrier   Attribute

184. but we've got to eliminate those don't we ++ (tag)
        Actor   Pr:mat   Goal

185.S1 -yes but if it was hand made
          Carrier Pr:int Attrib

186. then we could go to the makers of it
        Actor   Pr:mat   Goal

187.yes so
     Minor clause

188.S2 - but her boyfriend could have bought it
               Actor   Pr:mat   Goal

189. anyone could have bought it
        Actor   Pr:mat   Goal

190.yeah
     Minor clause

191.S: it's exotic
     Carrier Pr:int Attrib

192.so it tells us
      Sayer Pr:verbal Phen

193. it was exotic
    Carrier Pr:int Attribute

194. means usually [[bought in from overseas something not from within Australia]]
        Pr:int   Vl

195.that's [[if you use the language correctly]]
        Tk   Pr:int Vl

196.and we're assuming
       Senser Pr:mental

197.that they've used the language correctly
       Actor Pr:mat   Goal   Circ:manner

198. ** so it's not you know (incomplete clause)
               Pr:int

199.that would imply
    Senser Pr: senser

200.that it's not massed produced
        Carrier Pr:int Attribute

201.but if it was mass produced
        Carrier Pr:attrib Attrib.

202. it would make a detective's job nearly impossible
     Assigner Pr:attrib Carrier   Attribute

203.S:yeah
      Minor clause

204.**it's like you know (incomplete clause)

205.if you walk out into the playground
      Actor Pr:mat Circ:loc.

206.and you find somebodies tie
       Actor Pr:mat. Goal

207.and you know it hasn't got their name on it
             Tk/poss.   Pr:int Vl/poss   Circ:loc.

208.it could be almost anybody of 1200 people couldn't it++ (tag)
    Tk   Pr:int   Vl

209.S: yeah
      Minor clause

210.which makes [[the job of finding the owner]] really difficult
    Actor   Pr:mat.   Circ:manner

211. whereas if you've got your name on it
          Actor   Pr:mat. Goal Circ:loc.

212. you can find them straight away
    Actor   Pr:mat   Circ:time

213.***

214.**da de da (singing)a motherless tie alright so yeah good food (incomplete clause)

Episode 2 - Turns 96b - 148
 Sequence 1

215.** what about some other clues (incomplete clause)

216. how   are we going to use them the location
    Circ:manner   Actor   Pr:mat. Goal Goal

217. how   can that <u>help</u>   us   <u>identify</u> this girl
    Circ:manner   Actor Pr:mat Benef.   Goal

218.S: she could   either be
      Carrier   Pr:int

219. she could be in Victoria or NSW
     Carrier   Pr:circ   Circ:loc

220.more than likely
       Minor clause

221.S: she could live in Sydney or Melbourne
      Actor Pr:mat   Circ:loc

222.well yeah the possibility of we've at least reduced   it to the possibility of two states
                                Senser   Pr:mental   Phen. Circ:extent
maybe haven't we ++ (tag)

223.S1: no not really
                 Minor clause
224.what
      Minor clause

225.S1:**the airport

226.S2: they might have drove her all the way from South Australia
        Actor   Pr:mat.   Goal Circ:extent

227.S3: was the body (off?) or old or something
       Pr:int Carrier   Attribute

228.we're not told that are we ++ (tag)
    Sayer Pr:verbal Phen.

229.we're assuming
    Senser Pr:mental

230.that it's probably uh relatively fresh [[is the word that]]
       Carrier Pr:int Attribute

231. it hasn't decomposed
    Actor   Pr:mat

232.we're not saying
    Sayer Pr:verbal

233. it's decomposed beyond recognition
      Actor Pr: mat   Circ:extent

234.St: ****(maggots??) ****

Sequence 2

235.yeah OK again [[what you do]] is [[start interviewing]] don't you++ (tag)
                                 Tk   Pr:int   Vl

236.St:like the people [[who were around]]
             Goal

237.start interviewing the um um neighbours OK wouldn't you++ (tag)
     Pr:verbal   Phen.

238. so if we walked in
       Actor Pr:mat

239.if we walked into this room
     Actor Pr:mat Circ:loc.

240.and found a dead body
     Pr:mat Goal

241.it would be a reasonable assumption
   Carrier   Pr:int Attribute

242. but if you started interviewing the class [[that was in here before[[we got in here]]]]
        Sayer Pr:verbal   Phen

243. we might actually find some information about [what took place]
   Actor   Pr:mat Goal   Circ:matter

244. OK so( ) anything else about the location
               Attribute   Circ: loc

245.S: it could be like the ACT
    Tk   Pr:int   Vl

246. but you could um (incomplete)

247.we could also ask
    Sayer   Pr:verbal

248. the people who bought it
    Actor   Pr:mat   Goal

249.you could only   pay about $2 in the past
    Actor   Circ:extent Pr:mat Circ:extent

250.** you know 1934 (incomplete clause)

251.S: 1934
     Minor clause

252.no not 1934 Australian trade by 1934 was absolutely free
      Carrier   Circ:time Pr:int Attribute

253.written into our constitution
  Pr:mat Circ:loc

254. not that anyone reads our constitution but anyway
     Actor Pr:mat Goal

255.S:um you could check service stations
    Actor Pr:mat Goal

256. to see
   Pr:mental

257.**ah well don't yeah OK the time [to get there] (incomplete clause)

258.**and you know the possibility [[of checking neighbours' petrol stations]] (incomplete clause)

259.yeah <u>have</u> you <u>had</u> a dead lady with a bag over her head lately (laughs)
   Pr:attrib Carrier Attribute Circ:manner Circ:loc Circ:time
260.no
  Minor clause

261.S: no if she's fresh like
    Carrier Pr:attrib Attribute

262. she must have died just then
  Behaver Pr:behav Circ:time

263.**she wouldn't (incomplete clause)

264. in the country area wouldnt people [like running the petrol station] notice strangers
   Circ:loc.   Senser   Pr:mental Phen.

265.S: yes yeah
   Minor clause

266.yeah think about it
    Pr:mental Phen

267.S: yeah they notice everything
    Senser Pr:mental Phen

268.**people in country towns (incomplete clause)

269. not necessarily Albury because Albury's a relatively big one
     Circ:angle   Carrier Pr:attrib Attribute

270.but other smaller towns notice stranger
   Senser   Pr:mental Phen.

271.OK so the police would start to investigate those possibilities
      Actor   Pr:mat   Goal

272. for example if we think about well um
     Senser Pr:mental

273.you probably won't remember this
     Senser   Pr:mental   Phen.

274. but the Rainbow Warrior's incident the reason [[why they were able to track down
                Circ:matter   Circ:cause   Actor   Pr:mat

                                     Vl

.those er Frenchmen [[who carried out the bombing of the Rainbow Warrior in New Zealand a
Goal   Pr:mat   Goal   Circ: matter   Circ:loc.

few years ago]]]] was the fact that [[they passed through small New Zealand country towns]]
Circ:time   Pr:id   Actor Pr:mat   range
                                      Tk

275. the New Zealanders' noticed
       Senser   Pr:mental

276.that there were Frenchmen in town
          Pr:exist   Existent Circ:loc

277. you don't forget that sort of thing
      Senser Pr:mental   Phen

278. it's unusual
      Carrier Pr:int Attribute

279.so that's another possibility
        Tk   Pr:int   Vl

280. that's a good one
      Carrier Pr:int Attribute

281. alright what else is our location location and this
            Vl Pr:id   Tk

Sequence 3

282.S:I've got a good one
       Carrier/ poss Pr:int Attribute/ poss

283.**location

284.S: no it's about the petrol station
         Carrier Pr:int Attribute/circ

285.as if they're going to know that uh
        Senser Pr:mental   Phen

286.you could be driving there past
    Actor   Pr:mat   Circ:loc

287. where people stop there past Albury
    Circ:loc Actor Pr:mat Circ:loc Circ:loc

288. to get petrol
       Pr:mat Goal

289.that's a possibility
    Carrier Pr:int   Attribute

290. but it's something [that we can eliminate]can't we ++(tag)
       Tk Pr:int Vl

291.S: you could be driving
      Actor Pr:mat

292. what's to say they're going to stop
             Actor Pr:mat

293. to get petrol
     Pr:mat

294.no you've got to check it out haven't you++ (tag)
      Actor Pr:mat   Goal

295. if you don't ( )
     Senser

296.**and he has (incomplete clause)

297.somebody could be sitting on a piece of information
     Senser   Pr:mental   Phen.

298.you have failed to carry out your job as a detective
    Actor   Pr:mat   Goal Circ:role

Sequence 4

299.S: sir

300.historians dont pass up clues
      Actor   Pr:mat Goal

301.just because they're difficult
        Carrier Pr:int Attribute

302.or maybe it's not [[going to lead you]] somewhere
        Tk Pr:int   Vl   Circ:loc.

303.you check it out
   Actor Pr:mat Goal

304.to make sure
     Pr:mental

305.it's not relevant
   Carrier Pr:int Attribute

306.you have to eliminate things
   Actor   Pr:mat   Goal

307.as well as   include things
    Circ:accompaniment Pr:mat Goal

308. is this piece of information relevant yes or no
    Pr:int   Carrier   Attribute

309. will it   lead   us anywhere

Phen. Pr:mental Senser Circ:loc.

310. don't know
      Pr:mental

311. let's check it out
    Actor Pr:mat Goal

312. it may not
    Phen. Pr:mental

313. but it may
      Phen. Pr:mental

314. so that's our goal isn't it++ (tag)
     Tk Pr:int Vl

315. S: sir sir um when the um when the um body was found of um
                            Circ:time   Goal Pr:mat

316. was there any signs of like fire [[being burnt there]]
         Pr:exist   Existent

317. because if not ( )
        Pr:existent

318. it would have to be burnt somewhere else
     Goal Pr:mat   Circ:loc.

319. (Ss in unison) somewhere else
     Minor clause

320. I think
   Senser Pr:mental

321. it was actually burnt on site
    Goal Pr:mat   Circ:loc

322. we don't know that
    Senser Pr:mental Phen.

323. it's not told to us
    Phen. Pr:verbal Sayer

324. S:sir there would have been all this smoke
           Pr:existential   existent

325. well again

326. (Ss calling out)

327. they're the sort
   Tk Pr:int Vl

328. they're the sorts of things
   Tk Pr:int Vl

329. that we try to openly find those sort of things
    Actor Pr:mat. Circ:manner   Goal

330. alright that's all
          Carrier Pr:int Attribute

331.about all we can with the location   [[I suppose]]
          Carrier Pr:int Circ Attribute/circ

332.St: if some body was burnt near
               Goal   Pr:mat   Circ:loc.

333. wouldn't there be black grass everywhere
               Pr:existential   Existent Circ:loc

334.S:( )ash all over
               Existent

335.we're not told
     Sayer Pr:verbal

336. but I'm confident
          Carrier Pr:int Attribute

337.that it was burnt on site
          Goal   Pr:mat   Circ:loc.

338.(several ss calling out) did they burn it actually there
                              Actor Pr:mat Goal Circ:loc

339.let's think about
     Senser Pr:mental

340.where it was actually burnt in a um culvert a stone culvert
          Circ:loc Goal Pr:mat   Circ:loc

341.** it's not going to (incomplete clause)

342.(ss calling out)*******

343.well that's not relevant now
          Carrier Pr:int Attribute Circ:time

344.S: ****

345.that's amazing/ (the main thing)
          Carrier Pr:int Attribute

346.Ss laugh

Episode 3 - Turns 149-175
Sequence 1

347.right how about this car what will we do with the car skid marks
          Circ:matter   Goal   Actor Pr:mat Circ:accompaniment

348.what is the process [that we go through]
                                        Actor Pr:mat
          Tk   Pr:int   Vl

349.S1: um we get
          Actor Pr:mat

350 mark and the depth of the track
       Pr:mat   Goal

351. we get forensic experts
    Actor Pr:mat Goal

352. and to see how old
      Pr:mental Phen

353.OK (interjects)

354.S1: continues -to see how old [[they are]]
              Pr:mental Phen

355.and then if they're not old
         Carrier Pr:int Attribute

356.we go around local um tyre places
    Actor Pr:mat   Goal

357.and see
      Pr: mental

358.if anyone bought one of these tyres ******
     Actor   Pr:mat   Goal

359.** S2:like a faster(??) car sort of (incomplete clause)

360. I need a tyre and a possible car
    Senser Pr:mental Phen.

361.what are you going to do with that information though
    Goal   Actor Pr:mat   Circ:accompaniment

362.are you going to link it into something else [that you're already doing]
     Tk   Pr:int   Vl   Circ:matter

363.S:um it it was um a good car um
     Carrier Pr:int   Attribute

364.the person must be rich
    Carrier Pr:int Attribute

365. so you narrow it down to rich people
      Actor Pr:mat Goal   Circ:matter

366.and if it was a bad car
      Carrier Pr:int Attribute

367.you narrow it to poorer people
    Actor Pr:mat Goal   Circ:matter

368.S2: it could be stolen
    Goal Pr:mat

369.S3: or rented
     Pr:mat

370.well yeah
    Minor clause

371.St: * or be **

372.it could be in the bottom of the river
　　　Carrier Pr:int:circumstantial Attribute/circ

373.right we won't be testing that area will we++ (tag)
　　　　　Actor Pr:mat　　　Goal

374.**S: everywhere (incomplete)

375.**yeah, everywhere (laughs) um a stolen, rented bla bla whatever (incomplete)

376.S:if it was rented
　　　　　Goal Pr:mat

377. then it wouldn't wouldn't be a very good idea
　　　　　　Carrier　Pr:int　Attribute

378.no obviously not
　　　　　Minor clause

379.S:****

380.who else can you think of anything else
　　　　　Senser Pr:mental Phen

381. we could be worth doing
　　　　Actor Pr:mat

382.S:contact a neighbour
　　　　　　Pr:mat Goal

383.or( ) the guy from the petrol station
　　　　　　　　　Goal
384.yes we can try and link these two things together can't we ++ (tag)
　　　　　Tk　　Pr:int　　　Vl

385.as we are going around looking
　　　　Senser　Pr:mental

386.asking people about
　　　Pr:verbal　Phen Circ:matter

387. if there are strangers in town
　　　　　　Pr:exist.　Existent Circ:loc.

388.if we've got something** this car as well
　　　　Senser　　Pr:mental Phen

389. have you seen such and such a type of car
　　　　　Senser Pr:mental Phen

390. those things can be linked together
　　　　Carrier　Pr:int　　Attrib/circ

391.if we could assume the direction
　　　　Senser Pr:mental Phen

392.they're coming from
      Actor Pr:mat

393.S2: that's what [[I said]]
      Tk Pr:int   Vl

394.direction yeah find direction
             Pr:mat Goal

395.yesterday we identified
           Actor Pr:mat

396.might pin-point the direction
           Pr:mat Goal

397.S:they could have done a uey (a u-turn)
      Actor Pr:mat   Goal

398.yeah we don't know the direction
        Senser Pr:mental Phen

399.S: if they had gone on the grass
        Actor Pr:mat Circ:loc.

400.wouldn't there be mud and marks on the road
        Pr:exist   Existent   Circ:loc.

401.**direction- question mark, question mark (incomplete clause)

Episode 4 - Turns 176-224a
Sequence 1

402.( )anything else
        Existent

403. what are we up to
      Goal   Actor Pr:mat

404.S:um I got
      Carrier/poss Pr:int

405.I bought in about location
    Sayer Pr:verbal Circ:loc.

406.yeah
      Minor clause

407.S:and on the bag there could be fingerprints
          Circ:loc.   Pr:existent. Existent

408.yeah, unlikely but still yeah
      Minor clause

409.S: and if the ****

410.don't how many of you are thinking
            Senser   Pr:mental

411.that the bag over her head is something like [you carry around]

                Tk   Pr:int   Vl

412.** S: like a plastic or paper bag (incomplete)

413.S2:don't know
          Pr:mental

414.it would be**

415.it's [[more likely to be]] a hessian bag
    Carrier Pr:int   Attribute

416.or( ) something like that
                 Attribute

417.**S1:yeah a hessian bag
               Minor clause

418.S2:what's a hessian bag
           Attribute Pr:int Carrier

419.**S1:a potato bag
            Minor clause

420**material, made out of material
              Minor clause

421.S1: the *** she was put inside the bag like
              Goal Pr:mat Circ:loc.

422.yeah
      Minor clause

423.S1: that means
      Phen Pr:mental

424.she was very likely murdered
    Actor   Pr:mat Circ:manner

425.**S2:Nah the guy at the pub (incomplete clause)

426.S3:well how come you have to say that (turning to other student)
       Circ:cause   Sayer   Pr:verbal Phen

427.S4:*****

Sequence 2

428.Sh,sh,sh OK what about the description what are we going to do with this description
                       Circ:matter Goal Actor Pr:mat   Circ:accompaniment

429.S2: check with missing persons
        Pr:mat   Circ:accompaniment

430.to see
        Pr:mental

431.** if she (incomplete clause)

432.here we go, yeah right
       Actor   Pr:mat

433.S2: we already know the description
      Senser Circ:time Pr:mental Phen

434.**what else (incomplete clause)

435.S: describe her
       Pr:mat goal

436.put it over the wireless
  Pr:mat Goal Circ:means

437.OK
      Minor clause

438.Ss calling out

439.**OK confirmation either over the wireless, radio (incomplete clause)

440.whatever you want to call it
     Vl   Assigner   Pr:int Tk

441.they probably called it a wireless in 1934
  Assigner   Pr:int Tk Vl   Circ:time

442.**um in newspapers (incomplete clause)

443.Ss calling out (problem solve??)

444.and posters, public display and whatever else can you think of
                   Phen   Senser Pr:mental

445.all trying to identify
    Actor   Pr:mat

446.find someone
   Pr:mat Goal

447.to come forward
   Pr:mat

448.who can identify her right
   Actor   Pr:mat   Goal

449.[[what the idea is]] [[get somebody to say//to come forward// and say//yes that's Joe
           Vl   Pr:int   Tk
   Bloggs//who lives down the road from me// << >> Josephine Bloggs ar um//that lives down the road from me]]

450.<<S: oh man o >>

451.OK so that's all [[aimed at doing that]]

      Tk Pr:int   Vl

Sequence 3

452.( ) anybody with any other ideas [[about how we investigate any of those things]]

                                                  Actor Pr:mat Goal
              Existent   Circ:manner

453.S: Oh um how and what the policeman said
                        Verbiage   Sayer   Pr:verbal

454.**was it (incomplete clause)

455. hit her with a hammer other
      Pr:mat Goal Circ:means

456.why was he trying to find **
        Circ:cause Actor Pr:mat

457.doesn't follow
           Pr:mental

458.doesn't follow the idea
              Pr:mental Phen

459. we had the idea yesterday
        Tk/poss Pr:int Vl/poss Circ:time

460.that that if you if we looked for other crimes of this kind
                      Senser Pr:mental Phenom   Circ:matter

461.S: sir and look for a motive
                  Pr:mental Phen

462.OK if we in actual fact um looked yeah
          Senser   Pr:mental

463. maybe it's not going to help us well much at this stage
            Attribute   .Pr:int Beneficiary   Circ:extent Circ:time

464. if we don't know much
         Senser   Pr:mental Circ:extent

465. but yesterday we were talking about the possibility of serial killers
            Circ:time Sayer Pr:verbal   Phenom

466.and that all kinds of things so this type or kind it's murder
                        Phen   Tk   Pr:id Vl

467.but this kind of distinguishes it I guess
                Tk   Pr:int   Vl

468.from the fact that that face has been mutilated
                      Goal Pr:mat

469. the body has been burnt
         Goal Pr:mat

470. maybe there's somewhere that in this day and age of um serial killers
             Pr:exist   Existent   Circ:time

471.seem to get a lot of news coverage
        Pr:int   Poss/attribute

472.maybe there is someone around
                    Pr:exist.   Existent Circ:loc.

473.who does this to their victims
        Actor Pr:mat Goal beneficiary

474.so that's that's another possibility
            Carrier Pr:int Attribute

475. so we're we're starting to look at
                Senser Pr:mental

476.using other experiments for example um um
        Pr:mat   Goal

477.we're looking at forensic experts
        Senser Pr:mat Phenom

478. maybe using people who um um
                Pr:mat Goal

479.for example with the pyjamas we could go to the retail outlet
                Circ:accompaniment Actor Pr:mat Circ:loc

480.or people who or buyers or anyone like that who can tell us about those sort of things
                            Sayer   Pr:verbal Receiver   Verbiage

Sequence 4

481.   OK( ) any other inventive ideas
                    Existent

482.to investigate a few of those things [that people thought of]
                                                Senser Pr:mental

            Pr:mat.   Goal

483.S: was the initial on the towel hers
            Pr:int   Poss/carrier   Poss/attribute

484.we're not told that
        Sayer Pr:verbal Phen

485. we're not told that
        Sayer Pr:verbal Phen

486.S:***

487.yeah yeah
            Minor clause

488.S: do you know
            Senser Pr:mental

489.what towel and initial actually were
        Vl   Tk   Pr:int

490.no, no I don't
            Senser Pr:mental

491.I might have to go back and find out
     Actor   Pr:mat

492. what that with we're certainly not told there
                Sayer   Pr:verbal

493.but it doesn't seem to be significant either at this stage
     Carrier Pr:int   Attribute   Circ:time

494.S: sir

495.yep
        Minor clause

496.S:um was there any information that um
        Pr:exist   Existent

497.the girl died by burning
     Actor   Pr:mat   Circ:manner

498.or is there information
        Pr:exist   Exist

499.that she was like stabbed
        Goal Pr:mat

500. or strangled or like
        Pr:mat

501.later on there's a clue
      Circ:time Pr:exist Exist

Episode 5 - turns 224b-254
Sequence 1

502.let's move on there
     Actor Pr:mat Circ:loc.

503.look at the sheet [[you've got there]]
       Pr:mental Phen

504.we'll move to the next clue [[that you've got there]]
     Actor Pr:mat   Circ:loc (abstract)

505.and I think
      Senser Pr:mental

506. it's called the final clue
     Tk   Pr:int Vl

507.S:***

508.In 1944" 10 years later OK 10 years later Acommissioner Bill Mackay asked
      Circ:time Circ:time   Circ:time   Sayer   Pr:verbal

       a team of three dentists@
      Receiver

509.so we're actually going to now bring in some other experts
        Actor   Pr:mat Circ:time   Goal

510.to try and find this girls identity
         Pr:mat   Goal

511.because as somebody already suggested
                 Sayer   Pr:verbal

512.that we bring in a dentist
     Actor Pr:mat Goal

513.to identify
       Pr:mat

514. try and help find
          Pr:mat

515. help identify her from her dental records
      Pr:mat   Goal Circ:means

516.and what's it say
   Verbiage Sayer Pr:verbal

517.that they do
      Actor Pr:mat

518.can you read it
      Actor Pr:mat Goal

519.S: In 1944, Commissioner Bill Mackay asked a team of three dentists
            Circ:time   Sayer   Pr:verbal Receiver

520. to make another examination of the skeleton of the pyjama girl
      Pr:mat   Range

521.this time the dentists noticed a tiny gap [[where a porcelain filling had fallen out]]
                                             Actor   Pr:mat
         Senser Pr:mental Phen

522. the dental records were checked against Linda Agostini's
        Goal   Pr:mat   Circ:manner

523.and they matched perfectly
      Actor Pr:mat   Circ:manner

524.**identification (incomplete clause)

525.stop there
      Pr:mat Circ:loc.

526.how did they get her
   Circ:manner Actor Pr:mat Benef.

527.how did they have her name
   Circ:manner Carrier/poss Pr:int Attribute/poss

528.um how did they establish a name
    Circ:manner Actor Pr:mat Goal

529.you should have already this earlier on
      Carrier/poss   Pr:int   Attribute/poss Circ:time

530. how did they establish her a name, this name Linda Agostini
      Circ:manner Actor Pr:mat   Goal

531.**S:from the towel (incomplete clause) - extends discourse
         Circ:loc

532.no you haven't read it yet**
       Actor Pr:mat Goal

533.S: um they put the body on display
         Actor Pr:mat Goal Circ:manner

534.right they put the body on display
          Actor Pr:mat Goal Circ:manner

535.( )a bit gruesome isn't it ++ (tag)
          Attribute

536.S: will they do that these days
         Actor Pr:mat Range Circ:time

537.no what do they do these days
       Range Actor Pr:mat Circ:time

538.**S: DNA test (incomplete clause) - extends discourse

539.S: were we were we were we supposed to read like sort of four perfect clues
                               Actor Pr:mat   Goal

540.to connect it
       Pr:id Vl.

541.Oh didn't I tell you
         Sayer Pr:verbal Receiver

542.to do that
        Pr:mat Range

543.S:no you didn't
        Sayer Pr:verbal

544.Oh I'm sorry
       Carrier Pr:int Attribute

545. OK we better take a step backwards
        Actor Pr:mat Range Circ:loc.

546. that's my fault
      Tk Pr:int Vl

547.beg your pardon
       Minor clause

548. OK let's go back to the fifth alright
        Actor Pr:mat Circ:loc.

549. I beg your pardon
          Minor clause

550. that's my fault
          Tk Pr:int Vl

551. let's go back to those
          Actor Pr:mat Circ:loc.

552.S: now we know
          Senser Pr:mental

553.what happened
          Actor Pr:mat

Sequence 2
554.yeah beg your pardon
                    Minor clause

555.my mistake
          Minor clause

556.let's go back to these
          Actor   Pr:mat   Circ:matter

557.alright we've got this situation
             Carrier/poss Pr:int Attribute/poss

558.where they've gone through all this
             Actor Pr:mat   Goal

559.and they're still not revealed enough
          Carrier   Pr:int   Attribute

560.so the police desperately seeking to find out
          Actor Circ:manner   Pr:mat

561.** if who ident (incomplete clause)

562.they put the body on display
          Actor   Pr:mat   Goal Circ:manner

563.what do they usually do these days
          Goal   Actor   Pr:mat Circ:time

564. we've had a few missing per/famous missing persons recently and um over the uh holidays ah
          Carrier/poss Pr:int Attribute/ poss

565.the police did what
             Actor Pr:mat Goal

566. to try and jog people's memories
                Pr:mental   Phen.

567.S:they made models of them
             Actor Pr:mat   Goal Circ:matter

568.OK they made models of them
             Actor Pr:mat   Goal Circ:matter

569.OK which would seem to me
      Senser Pr:mental Receiver

570.to be a little bit more less gruesome than sort of[[freezing the body]]
                                                Pr:mat Goal
      Pr:int   Attribute   Circ:comparison

571.putting it on display um
      Pr:mat   Goal Circ:manner

572. in those days it was a missing person
      Circ:loc Carrier Pr:attrib Attribute

573.they don't have the body
    Carrier/poss Pr:int Attribute/ poss

574.so [[what you do]] is [[make models]] from a photograph
      Goal Pr:mat Actor   Pr:mat Goal
      Tk   Pr:int   Vl   Circ:matter

575.which is   a little bit more **than those two missing school girls down the south coast
      Carrier Pr:int attribute   Circ:comparison   Circ:loc.

576.**when they the (incomplete clause)

577.S: yeah
      Minor clause

578.where they actually put them on the road
      Circ:loc. Actor   Pr:mat Goal Circ:loc

579.where they were last seen
      Circ:loc Senser   Circ:loc Pr:mental

580.**so it makes in case passers by (incomplete clause)
        Agent Pr:causative Carrier

581. it you know jogged their memories about what the girls
      Senser   Pr:mental Phen.   Circ:matter

582.like like they do that so okay
        Actor Pr:mat Goal

583.they put the body on display
    Actor Pr:mat Goal Circ:manner

584.the police put the preserved body on public display in an ice bath at Albury Hospital
      Actor Pr:mat Goal   Circ:manner   Circ:manner   Circ:loc

585.and later transferred the body to Sydney University
      Circ:time   Pr:mat   Goal Circ:loc.

586.in the hope that somebody would recognise it.@
      Circ:cause   Senser Pr:mental   Phen

587.OK and you've got a photograph   here yuk (shrugged)
        Poss/carrier Pr:int Poss/attribute Circ:loc.

588.( )a bit ghoulish

Attribute

589. but that's the way [[it goes]]
          Tk   Pr:int   Vl

590. and from that they got another piece of information
          Circ:matter carrier/poss pr:int attribute/ poss

591. Sydney residents claimed
          Sayer   Pr:verbal

592.the body resembled a lady by the name of Linda Agostini
          Senser   Pr:mental Phen Circ:matter

593. they get a name (writes on board)
       Carrier/poss Pr:int Attribute/ poss

594.it doesn't solve the crime though does it
       Actor Pr:mat   Goal

595.she lived in Kings Cross Sydney
        Actor Pr:mat Circ:loc

596. so we've got another location
       Tk/poss Pr:int Vl/ poss

597. and she's got a husband Tony
          Carrier/poss Pr:int Attribute/ poss

598.S:they said
           Sayer Pr:verbal

599.that she moved to Melbourne did they ++ (tag)
           Actor Pr:mat Circ:loc.
600.police questioned the husband
          Sayer Pr:verbal   Target

601.that's the sixth clue
      Tk   Pr:int   Vl

602.oh yes they told us
            Sayer Pr:verbal Target

603. they moved to Melbourne
       Actor Pr:mat Circ:loc.

604.they moved to Melbourne
       Actor Pr:mat   Circ:loc

605. put that in
       Pr:mat Goal

606.moved to Melbourne
       Pr:mat Circ:loc

607.police questioned her husband
          Sayer   Pr:verbal   Target

608.have they got a suspect

Carrier/ poss Pr:int Attribute/poss

609.S: yes yes
        Minor clause

610.** have they(incomplete clause)
            Carrier/poss Pr:int

611.S: no
        Minor clause

612.the question is how [[we nail this guy]]
                                actor pr:mat goal
            Tk   Pr:ints   Vl

613.**S:(Laughs) hard evidence nails (are gone??)(incomplete clause)

614.they've got to find the hard evidence
        Actor   Pr:mat   Goal

615.to prove
        Pr:mat

616.that he did it
            Actor Pr:mat Goal

617.S:***

Episode 6 - Turns 254-361
Sequence 1

618.OK so we've got a name
            Carrier/poss Pr:int Attribute/ poss

619.and we've got an identity
        Carrier/poss Pr:int Attribute/ poss

620.we've got a suspect
        Carrier/poss Pr:int Attribute/ poss

621. now we've got to try to find uh
            Actor Pr:mat

622.to solve the murder
        Pr:mat Goal

623.we got to find out hard evidence
        Actor Pr:mat   Goal

624. that is going to link her death with our suspect
            Tk Pr:id   Vl   Circ:accompaniment

625.S: we don't have a motive
        Carrier/poss Pr:int Attribute/ poss

626.no we don't
        Carrier/poss Pr:int

627.   ** it's really you know (incomplete clause)
            Carrier Pr:int

628   it's going to be harder
        Carrier Pr:int Attribute

629.and this is [[why it remained a mystery for]]
           Tk Pr:int Vl

630.S:*****

631.did you
     Pr:mat Actor

632. how did you go
     Circ   Pr:mat Actor

633. OK did you mean
       Senser Pr:mental

634.that was an OK
     Carrier Pr:int Attribute

635.or a don't know
     Pr:mental

636.S:don't know (laughs)
     Pr:mental

637.alright the police go and question her husband. Mr Agostini
       Sayer   Pr:verbal   Target

638.who said
     Sayer Pr:verbal

639.that his wife in actual fact had left him the previous August
     Actor   Pr:mat Goal Circ:time

640.it   makes   it   difficult
     Assigner Pr:causative Carrier Attribute

641.that is just that doesn't say
         Sayer   Pr:verbal

642.that that he didn't do it
     Actor Pr:mat Goal

643. he says
  Sayer Pr:verbal

644.that hey I know nothing about it
     Senser Pr:mental Phen Circ:matter

645.because she left me
     Actor Pr:mat Goal

646.I don't know   [[what happened]]to her since last August'
    Senser Pr:mental   Phen   Benef   Circ:time

647.S: he didn't do it
     Actor Pr:mat Goal

648.S2: he did do it
　　　　Actor Pr:mat Goal

649.S1:he did so do it
　　　　Actor Pr:mat Goal

650.you know exactly [[who did it]]
　　　Senser Pr:mental　　Phen

651.but how do we construct the evidence
　　　　Circ:manner Actor Pr:mat goal

652.to show
　　　　Pr:mental

653.who did our 7th clue yeah
　　Actor Pr:mat　　Goal

654. for anyone who's read ahead
　　　　Actor　　Pr:mat Circ:loc.

655.our 7th clue is that the coroner Mr Sweeney
　　　　Tk　　Pr:int　　Vl

656.that between the 28th of August 1934 and 31st August 1934, a woman's body was found
　　　　　　Circ:time　　　　　　　　　　　　　　Goal　　　　Pr:mat

657.partly burned near Albury
　　　　Circ:manner Pr:mat Circ:loc.

658.she had died from injuries to the skull and brain
　　　Actor Pr:mat　　Circ:manner Circ:loc

659.but where and by whom he could not tell
　　　　Phen　　　　　　Senser Pr:mental

660.OK we've got a date now of the death
　　　　Carrier/poss Pr:int Attribute/ poss Circ:time Circ:matter

661.S: **

662.in fact and strangely enough Mr Agostini actually told　　a lie
　　　　　　　　　　　　　　　　　Sayer　　　　Pr:verbal Phen

663.S:he said if
　　　Sayer Pr:verbal

664.that he told the truth
　　　　Sayer Pr:verbal Phen

665.his wife did leave him
　　　Actor　　Pr:mat　　Goal

666.precisely Mr Agostini just told the perfect truth
　　　　　　　　　　Sayer　　　　Pr:verbal　　Phen

667.he just didn't tell the whole truth
　　Sayer　　　　Pr:verbal Phen

668.he didn't tell someo people
    Sayer Pr:verbal Phen

669.how his wife left him
    Circ:manner Actor Pr:mat Goal

670.**S: how (incomplete clause)
            Cir:manner

671.he just said
    Sayer Pr:verbal

672.his wife left him the previous August
    ActorPr:mat Goal Circ:time

673.Oh so who August 31ˢᵗ so he in actual fact was he thinking
                      Senser   Pr:mental

674.was he hoping
    Senser Pr:mental

675.the police were going to thin/ assume that
    Senser   Pr:mental

676.S:he didn't do it
    Actor Pr:mat Goal

677.yer that he didn't do it yer
    Actor Pr:mat Goal

678.that in some way in [[somehow in the leaving of him]] that she's run into some sort of
        Circ:matter   Actor Pr:mat Goal
    foul play

679..carried out by someone else
    Pr:mat   Actor

680..now if the wife had decided to leave him in Melbourne
        Actor   Pr:mat   Goal Circ:loc.

681..and maybe travelled back to Sydney
    Pr:mat   Circ:loc

682.she could have run across somebody
    Actor Pr:mat   Goal

683.who has committed the murder
    Actor Pr:mat   Goal

684.I mean that is now I'm just presuming
                 Senser Pr:mental

685. that's what Mr Agostini [[was hoping the police]][[would were going to believe]]]]
        Senser   Pr:mental Phen   Pr:mental
    Vl Pr:int Tk

686.S***

Sequence 2

687.there's an 8th clue there
         Carrier Pr:int Attribute Circ:loc.

688.the woman's physical peculiarities were [[that shehad large hands, peroxided hair and
                                                    Pr:int   Attribute/poss

         ears with almost no lobes]]
         Carrier   Pr:int

689.**any help alright (incomplete)

690.S:and ask
       Pr:verbal

691. people around [[that know her]]
                        Pr:mental Phen
         Phen

692.like the lady**[that had no ear lobes]
                        Pr:int Attribute/poss
           Phen

693.** and that everything like that (incomplete clause)

694.** and say if she had (incomplete clause)

695.** S: yeah large hands (incomplete clause) contributes to discourse

696.the police have now got an identity
              Attribute/poss   Circ:time Pr:int Carrier/poss

697.they've got a suspect
       Carrier/poss   Pr:int Attribute/poss

698.what do they got
    Vl/poss   Tk/poss Pr:int

699.what do they have to try to establish now
         Goal   Actor   Pr:mat   Circ:time

700.to try and link Tony with Linda's death
           Pr:id   Vl   Circ:accompaniment

701. in order to start constructing a case
               Pr:mat   Goal

702.they have to link Tony with what
       Tk   Pr:id   Vl Circ:accompaniment

703.S: um why um why he um split up with her
             Circ:cause Actor Pr:mat Circ:accompaniment

704.well we've got to try and find some sort of motive maybe
             Actor Pr:mat   Goal

705.S:was he angry about it
         Pr:int Carrier Attribute Circ:matter

706.what else might do we
         Goal   Pr:mat Actor

707.might have to link the two of them together
                Pr:id   Vl   Circ:manner

708.what have we got to try to establish
      Goal   Actor Pr:mat

709.think about it
      Pr:mental Phen

710.**S: was he um (incomplete clause)

711.need to go away
         Pr:mat

712.yeah we could then start interviewing
      Sayer   Circ:loc. Pr:verbal

713.**S: friends and (incomplete clause) (contributes to the discourse)

714.S: calling out

715.yeah so we start looking for information about their relationship
        Senser Pr:mat   Phenom
Sequence 3

716.what( ) next
      Tk   Pr:int Vl

717.come on
      Pr:mat

718.** there's got to be (incomplete)
        Pr:int

719. it's plainly obvious
     Carrier Pr:int Attribute

720.we've got a whole list of clues down the left hand side of the board
      Carrier Pr:int Attribute   Circ:loc.

721.and we've got a suspect
       Carrier/poss Pr:int Attribute/poss

722.one of the first things that we've got to
        Goal   Actor Pr:mat

723.S: investigate
      Pr:mat

724.try to to create the link between these two events
     Pr:mat   Goal   Circ:comparison

725.S: check
      Pr:mat

726. if he had a car like that
    Carrier Pr:int Attribute Circ:comparison

727.oh thank you see

Pr:mental

728.if we can link the car to Tony
        Tk Pr:id   Vl Benef.

729.what else
        Minor clause

730.S: if Linda has anyone else in the car
        Tk/poss Pr:int Vl /poss Circ:loc.

731.travelling with her
        Pr:mat Circ:Accompaniment

732.well hopefully that may that would have been already discovered
                        Phen   Pr:mental   Circ:time

733. if we had been (able??) to find that out
        Actor   Pr:mat Goal

734.but yeah, thats another one
                Tk Pr:intVl

735.S: the initials on the towel
        Minor clause

736.the initials on the towel OK
        Minor clause

737.which they would have been
        Vl   Tk   Pr:int

738.if they were linked to him
        Tk Pr:id   Benef

739.S: T.A. **would they (incomplete clause)

740.S2:or L.A. L.A.

741.St3: LA confidential

742.S1 A

743.S2 A??

744.S1 Anthony

745.S3 Anthony's his first name
                Tk   Pr:id   Vl

746.S*****

747.well we can't know her age about the age of his wife
        Senser Pr:mental Phen Circ:matter

748.and check her height
        Pr:mat Goal

749.and ( ) her build
                Goal

750.and oh well we knew
                    Senser Pr:mental

751.that she is his wife
            Tk Pr: int Vl

752.S:yer but still they didn't say
                    Sayer Pr:verbal

753.yer yer ( )anything else (incomplete clause)

754.S: neighbours
            Minor clause

755.yer OK
            Minor clause

756.S: they went on a trip
            Actor Pr:mat Circ:loc

757.yer so we're looking for this kind of thing like uh eyewitness accounts
                    Senser   Pr:mental   Phenom

758.so we go back into interview mode
            Actor Pr:mat   Circ:manner

759.** you know the neighbour (incomplete clause)

760.so long as we get to establish the pair[[were together]]
                    Actor   Pr:mat   Goal

761.what's the most important thing [[about them being together]]
            Tk Pr:int   Vl

762.S:that he   was   with her
                Carrier Pr:circ Circ/attribute

763.that he   was with her   when
            Carrier Pr:circ Circ/attribute Circ:time

764.S:July last year
            Minor clause

765.S: at the time of the murder
              Minor clause

766.S: where were you at the night of the 28th August
            Circ:loc   Pr:int Carrier Circ:loc

767.S: 31st August
            Minor clause

768.S: 1934
            Minor clause

769.right OK that's what[we've got to do]
                                Actor   Pr:mat
                        Tk   Pr:int   Vl

770.now you must have seen so many movies
          Senser   Pr:mental Phen.

771.where they say
    Circ:loc Sayer Pr:verbal

772.can you explain
       Sayer Pr:verbal

773.where you were on the ** on the 25th of you know **
      Attrib. Carrier Pr:circ Circ/attribute

Sequence 4

774.OK alright so we've got to try to establish his location
                      Actor   Pr:mat   Goal

775.to try and create those links
                 Pr:mat   Goal

776.well let's see [[how the detectives go]]
                         Circ:manner Actor Pr:mat
       Senser Pr:mental Phen

777.and we go over to
      Actor Pr:mat

778.where   am   I
     Attrib/circ Pr:circ Carrier

779. how do the detectives finally <u>work</u> it <u>out</u>
    Circ:manner Actor   Circ:loc Pr:mat Goal

780.do they do they create that thing
       Actor Pr:mat Goal

781. look at source 11
               Pr:mental Phen

782.S: source 11 a confession
       Minor clause

783.a confession OK
       Minor clause

784.oh really a
       Minor clause

785.it's   1940
    Tk Pr:int Vl

786.the dental records were checked against her
       Goal   Pr:mat   Circ:loc.

787.on the back of the page the previous page Linda's and they matched perfectly
       Circ:loc   Actor   Pr:mat Circ:extent

788.( ) identification of 3 small moles on the shoulder from photographs of the body

Vl
[that were on file] at the police police archives

789.that's put her identity beyond doubt
Vl Pr:int Tk

790.Antonio a waiter at Romanos' restaurant was arrested
Goal   Circ:loc   Pr:mat

791.and confessed to the crime
Pr:verbal Circ:matter

792.he was arrested
Goal Pr:mat

793.and confessed to the crime
Pr:verbal Circ:matter

794.S:why did he confess sir
Circ:cause Sayer Pr:verbal

795.** I suppose he was (incomplete clause)

796.it was you know a sense of guilt
Carrier Pr:int   Attribute

797.S: pretty obvious
Minor clause

798.S: he was obviously Italian
Tk Pr:int Vl

799.( ) of Italian descent

800S:****

801.Australian Italian my name is a Scottish
Carrier Pr:int Attribute

802.but I'm not Scottish
Carrier Pr:int Attrib

803.S: my name is *
Vl Pr:int Tk

804.S: my name is Chris
Vl Pr:int Tk

805.S: my name is Dan
Vl Pr:int Tk

806.alright so with Tonys confession of course it makes the police job
Circ:accompaniment   Assigner Pr:causative Carrier
[[of finding out// who did it]]   much easier
[[Pr:mat   //Actor Pr:mat Range]] Attribute

807.but if you look at the evidence [[that we've got//and that we we've been able to
Senser Pr: mental   [[Actor Pr:mat   Senser Pr: mentalconstruct]]
phenomenon

808.you could construct
     Actor Pr:mat

809.you can see
   Senser Pr:mental

810.that we have begun to build a very convincing argument around the identity of the
        Actor Pr:mat   Goal   Circ:matter
       murderer

811.depending of course on the information [[that you would have got from neighbours]]
                                          Actor   Pr:mat   Circ:matter
   Pr:int   Attribute

812.if in actual fact if this initial here matched that initial there
                 Actor Circ:loc Pr:mat Goal   Circ:loc

813.car skid marks and tyre marks were identifiable as his
    Actor   Pr:mat   Circ:role

814.well that somehow these green pyjamas green and cream pyjamas with the motifs
      Circ:manner   Tk

815.could   be linked to the couple as well
        Pr:id   Vl   Circ:accompaniment

816.S:****

817.so all of these things we could have constructed
        Goal   Actor Pr:mat

818.maybe even established a motive
               Pr:mat   Goal

819.we never did find the motive out
   Actor Pr:mat   Goal

820.S:***

821.**well okay we'll finish at (incomplete clause)
          Actor Pr:mat

822.S:why did he do it
    Circ:cause Actor Pr:mat

823.do you know
     Senser Pr:mental

824.S2: because he was bored
          Carrier Pr:int Attrib

825.S no (laughs)

826.S: it was because of the pyjamas
    Carrier Pr:int /circ

827.he didn't like the pyjamas
   Senser   Pr:Mental Phenom.

828.S: yeah he didn't like the pyjamas
        Senser Pr:mental Phen

829.St: yeah and he <u>wanted to get rid of</u> a bag and towel too
        Actor Pr:mat   Goal

830.**S: haircut and he had a ***(incomplete clause)

831.face me
    Pr:mat

832. what was the most important part of the process
    Vl   Pr:int   Tk

833.as far as the police were concerned
  Circ:extent   Senser Pr:mental

834. what was the thing [that gave them the major break through]
    Vl   Pr:int Tk

835.S: the confession
    Minor clause

836.well that makes the job easier
      Tk Pr:causative Vl Circ:manner

837.but what was the thing [that changed]
                          Pr:mat
      Vl Pr:int Tk

838.but what was the thing [[that changed]] [[the whole process of solving this crime]]]]
                                      Pr:mat   Senser   Pr:mental Phen
      Vl Pr:int Tk

839.S: the dentist
      Minor clause

840.OK but go further
      Pr:mental

841.S: they didn't get it
    Senser Pr:mental Phen

842.you're on the right track though
    Carrier Pr:circ   Circ

843. as soon as they identified the victim
      Circ:time   Actor Pr:mat Goal

844. it exposed immediately the husband
    Goal Pr:mat   Circ:time   Goal

845. that he was a suspect
    Carrier Pr:int Attribute

846.they could then <u>start</u> obviously <u>to construct</u> more clues around that person
    Actor   Circ:time Pr:mat   Goal   Circ:accompaniment

847. and test
        Pr:mat

848. whether it's you know this being the (incomplete clause)

few clauses missing from tape

849....of italian extract
        Minor clause

850.why would it have been difficult
        Circ:cause Carrier Pr:int

851.to go back to Italy in 1944
        Pr:mat Circ:loc.

852.S: the answer is German occupation
        Tk Pr:int Vl

853.yeah it was occupied by
        Goal Pr:mat

854.ruled by the facists
        Pr:mat Actor

855.and occupied by Germans
        Pr:mat Actor

856.there were a few British and American troops [blowing the place apart in 1944]
        Pr:exist. Existent

857.S: ****

858.why did that why do you think
        Circ:cause   Circ:cause Senser Pr:mental

859.he didn't escape
        Actor Pr:mat

860.S: cause he would have looked suspicious
        Carrier Pr:int   Attribute

861.yeah he was confident
        Carrier Pr:int Attribute

862. in the fact that while they couldn't identify his wife
        Actor Pr:mat Goal

863.he was safe
        Carrier Pr:int Attribute

864.but once they confronted him
        Actor Pr:mat   Goal

865.**cause he obviously (incomplete clause)

866.S: collapsed
                Pr:mat

867.he just collapsed

Actor   Pr:mat

868.they found out
     Senser Pr:mental

Appendix 5: Summary Of Transitivity Analysis: Clause Types: What Is History? lesson

Episode 1 - Clauses 1 - 93

Ranked Clauses

Material = 21 – 2 of these are Material (historical) = *changed, affect*
Mental = 11
Relational: attributive = 13
Relational: identifying = 11
Relational: possessive = 5
Relational: circumstantial = 4 – *caused* as Relational (historical)
Behavioural = 3 – *study* and *look at*
Existential =2
Verbal =7- mostly *explain*

Embedded Clauses

Material =10 6 of these are Material (historical) = *changed, affect*
Mental = 3
Verbal = 1
Relational: identifying = 1
Relational: attributive = 2

Tags: 4

Episode 2 - Clauses 94-146

Ranked Clauses

Material = 8 3 of these are Material (historical) = *changed, affect*
Mental = 9
Relational: attributive =1
Relational:identifying = 10 (3 are elliptical)
Behavioural = 4
Verbal =4

Embedded Clauses

Material =3   3 of these are Material (historical) = *changed, affect*
Mental =2
Relational: circumstantial' 1 *caused* as relational (historical)
Verbal = 3

Tags: 1

Episode 3 – Clauses 143-157

Ranked Clauses

Material = 4 none of these are Material (historical) = *changed, affect*
Mental =2
Relational: attributive =3

Relational: identifying =2
Existential' 1

Embedded Clauses

Material = 5   1 of these is Material (historical) = *affect*
TAGS : 0

Episode 4 - Clauses 158-338

Ranked Clauses

Material =64
Mental = 23
Relational: attributive = 11
Relational: identifying = 6
Relational: attributive: possessive = 6
Relational: identifying: possessive = 2
Relational: circumstantial = 1
Behavioural = 5
Existential =2
Verbal = 19

Embedded Clauses

Material =13
Mental = 3
Verbal = 5
Relational identifying = 1
TAGS : 3

Episode 5 - Clauses 339-350

Ranked Clauses

Material = 4   1 is Material (historical)
Relational: attributive = 2
Relational: attributive possessive = 2
Relational: causative = 2
Verbal = 2
Existential = 1

Embedded Clauses

Material = 1
Relational: attributive possessive'1
Verbal = 1

TAGS :0

Episode 6 - Clauses 351-365

Ranked Clauses

Material = 3
Relational: attributive = 1
Relational: circumstantial = 1

Verbal =2

Embedded Clauses

Material = 2   1 is Material (historical)
Relational: identifying = 1

TAGS :1

Episode 7 - Clauses 366-410

Ranked Clauses

Material = 7   2 of these are Material (historical) = *changed, affect*
Mental = 12 - mostly >understand'
Relational: attributive = 5
Relational: circumstantial = 5 *related* is coded this way
Relational: identifying = 4
Verbal =3

Embedded Clauses

Material =3   2 as Material (historical)
Mental = 3
Relational: attributive = 2

Appendix 6: Summary Of Transitivity Analysis: Clause Types: The pyjama girl mystery lesson

Episode 1 - Clauses 1 - 214

Ranked Clauses

Material = 68
Mental = 27
Relational: attributive = 31
Relational; identifying = 26
Behavioural = 3
Existential =7
Verbal =7

Embedded Clauses

Material =8
Mental = 5
Verbal = 1

Tags : 8

Episode 2 - Clauses 215 - 34

Ranked Clauses

Material = 33
Mental = 22
Relational: attributive =21
Relational: identifying = 11
Behavioural = 1
Existential =6
Verbal =7

Embedded Clauses

Material =7
Mental =1
Relational identifying = 1
Verbal = 1
Relational: attributive = 1

Tags: 0

Episode 3 – Clauses 347 - 401

Ranked Clauses

Material = 21
Mental =11
Relational: attributive =6
Relational: identifying =4
Relational: circumstantial = 1

Existential' 2
Verbal =1

Embedded Clauses

Relational: identifying = 1
Verbal = 1

Tags : 2

Episode 4 - Clauses 402 -502

Ranked Clauses

Material =26
Mental = 15
Relational: attributive = 8
Relational: identifying = 9
Existential =5
Verbal = 8

Embedded Clauses

Material =2
Mental = 1
Verbal = 1
Relational identifying = 1
Relational: attributive:1

Tags: 0

Episode 5 - Clauses 503-618

Ranked Clauses

Material = 52
Mental = 10
Relational: attributive = 16
Relational: identifying =9
Relational: causative = 1
Verbal = 11

Embedded Clauses

Material = 5
Relational: attributive =1
Verbal = 1

Tags :2

Episode 6 - Clauses 619 - 870

Ranked Clauses

Material = 75
Mental = 28

Relational: attributive = 32
Relational: identifying = 31
Relational: circumstantial = 1
Verbal =19

Embedded Clauses

Material = 12
Mental = 4
Relational: identifying = 1
Relational: attributive = 1
Relational: possessive = 1
Verbal = 1

Tags :0

Appendix 7: What is History? lexical strings

Episode	History	list of words	events	past	changes	effect	people	causes	historians	definitions	present	Record 2	Investigate 1	Diana's death 5	Evidence 9	Information 8	Eyewitness 9	Hypothesise 2	Forensic scientist 6	Detective 10	Sources 6
1	10	5	3	9	9	9	9	9	1	2											
2	16	7	0	11	15	9	12	8	1	3	4										
3	0	0	0	0	0	0	0	0	1	0	0										
4	1	3	10	0	0	0	0	0	18	0	0	0	4								
5	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0
6	0	0	2	0	0	0	0	0	1	0	0	0	0	2	1	0	0	0	0	0	0
7	5	1	0	6	4	1	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0

Appendix 8: The pyjama girl mystery lexical strings

Episodes	clue	information	identity	body	pyjamas	experts	dentist	bag	towel	initials	people	location	service station	car	tyres	missing persons	husband	police	August	confession
1	5	1	21	3	20	4	3	8	8	2	9									
2	7	5	2	10	0	0	0	1	0	0	7	7	2							
3	0	1	0	0	0	1	0	0	0	0	2	0	0	10	7					
4	1	2	6	1	1	1	0	8	2	3	2	0	0	0	0	7				
5	7	1	10	6	0	3	3	0	1	0	1	2	0	0	0	0	4	25		
6	4	2	18	2	3	0	1	0	1	3	3	1	0	3	1	0	43	11	8	3

Appendix 9: Prospectiveness of questions: What is History? lesson: Episode 4 sequence 1

Line No.	Episodse 4: sequence 1	M	Int.	Prosp	Function
132 133 134 135 136 137	OK / I think our historian would start off with just choosing an event/ OK to begin our investigation for example /who is /well think of someone who investigates something/ a detective/there has to be an event for him to investigate OK/ so what event does a detective investigate/ a crime/ -a murder/ a robbery/ whatever/ so he chooses/ an historian chooses an event/ his next /his next task is what	I		D	Req info
138	S: oh finding the (location??)	R		G	Give info
139 140 141 142	OK so he finds out presumably **what took place/** sometimes sometimes easy sometimes difficult isn't it to find **out what took place** /but it's a descriptive task/ if you took for example if we use the example of Princess Diana's death/	**F**		A	Accept/ **reform**
143	do we know really what happened	I		D	Req info
144	S: no	R		G	Neg
145 146 147 148	we've got a reasonable idea/ the poor old detectives have a difficult time getting all the information/ sometimes historians have the same sorts of difficulty/ what do we have to rely on/ what's the source of/ what are we looking for	F I		A D	Reject Req info
149	S: information	R		G	Give info
150 151	information about the event/ what else / what is another word that could be used to describe information	F/I		A/D	accept/ Req. info
152	S: dates	R		G	Give info
153	well as far as the detective	F		A	Qualify
154	S: facts	R		G	Give info
155 156	information/ facts/ we're looking for the facts/ what do detectives call this	F/I		A/D	Accept/ Req. info
157	S:evidence	R		G	Give info
158 159	evidence/ so a historian doesn't he get his evidence **from a whole variety of sources** doesn't he/	**F**		A	Accept/ **extend**
160 161	what sort of sources does a detective use/ a detective is investigating Diana's death/ what 's the sort of sources he uses	I		D	Req info
162	S: eyewitnesses	R		G	Give info
163 164 165 166	eyewitnesses/ so we're starting to just/ using the detective analogy/ we're starting to **construct whole series of words** that describe what historians are doing/ and that was our other task wasn't it /to describe what historians do/	**F**			Accept/ **extend**
167 168 169 170	**so in order to investigate an event the detective or historian works out what took place/ he gathers information from a whole series of sources/ tries to gather facts and evidence/ so he seeks witnesses/ in the case of Diana's death it would be eyewitnesses**	**F**			**Meta- comment**

Appendix 10: Prospectiveness of questions: What is History? lesson: Episode 4 sequence 4

Line No.	Episode 4: sequence 4	M	Int.	Prosp.	Function
196 197 198 199	what sort of sources would an historian use because we're now talking about an event that is something that's taken place/ we may have eyewitnesses /we may not/ so other than eyewitnesses what else does an historian use	I	T	D	Req info
200	S: records	R		G	Give info
201	records /**what sort of records**	**F/I**		A/D	Accept/ **Req. justif.**
202	S: books	R		G	Give info
203	like what?	I		D	Req info
204	S: encyclopedias	R		G	Give info
205	S: in the bible	R		G	Give info
206	could be in the bible/I don't know what we're studying	F		A	Ack.
207	S: police records	R		G	Give info
208 209	we could use police records but **what other types of records could we use**	**F/I**		A/D	Accept/ **Extend**
210	S:um the (facts??)	R		G	Give info
211 212 213 214 215 216	**he could go to the source of the crime / he could use archeological evidence**/ OK and that's information gathered by archaeologists sifting through buildings/ in the case of us if you were studying aboriginal society you'd go through the middens and things like that/ records such as official records kept by governments/	F		A	**Extend**
217 218 219 220	what's records kept by governments in Australia called/ does anybody know/ it's a special book that anyone can read that is spoken/ you can actually read every word that is spoken	I		D	Req info
221	S: hansard	R		G	Give info
222 223 224	hansard has recorded every word that is spoken /**so you put all those official records that are available to the historian**/ the births and deaths certificates	F		A	Accept/ **Reform**
225	S:newspapers	R		G	Give info
226 227 228 229 330 331 332	**newspaper, magazine, photographs, film/** since the invention of the camera we've got a whole series of events that have been recorded visually for us /there's a whole series of visual eyewitness oral accounts/ **unending unending/literally unending number of sources and types of sources a historian could could possibly use/ depending on events that is analysed**	F		A	Accept/ **Extend** **Meta-comment**

Appendix 11: Prospectiveness of questions: What is History? lesson: Episode 7

Line No.	Episode 7	M	Int.	Prosp.	Function
298	S: sir ****	I	S	D	Req info
299 300	well a lot took place/ well almost automatic/ what went in there/ we can write those things down/	R		G	Give info
301 302 303 304 305 306	we'll be constantly asking those questions/ it will be related to the past/ it will be related to the change/ and something else that you all included most of you included in your one little sentence/ somehow we've got to relate that/ what's the point of looking at things in the past/ what's the point of looking at the past	I		D	Req info
307	S: discovery	R		G	Give info
308	S: to see how it's changed the present	R		G	Give info
309 310 311 312	to see how it's changed to the present/ it's all very well/ but **unless we can relate those changes to how it affects us or how it may potentially affect our future** /it ain't worth doin'/	F		A	Accept/ **Extend**
313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328	OK /so historians always relate things to the impact on the present/ **if I was trying to explain who I was as a person I would have to explain my history/ if I wanted to understand who I am as a person I've got to understand my history /and this is why history is so important and why this word here is so important/ if I want to understand my country I've got to understand its history/ if I want to understand the world and the way it is and all the troubles and strifes and good things about the world /I've got to understand its history/ if I can't understand modern politics unless I understand the politics of the past/ same thing/ so it is absolutely essential if I want to understand our world/ the world we live in now and the future and ourselves to understand the history of it/ unavoidable unfortunately gentlemen/ unavoidable/ any questions**	F			**Meta-comment**

Appendix 12: Multimodal support: What is History? lesson

Appendix 13: Multimodal support: The pyjama girl mystery lesson

Appendix 14: Transcript: Egypt 1 lesson

Episode	Teacher	Students
1	but there are me rules when we're working in groups and we've ah we've already done a little bit of that/ group work/ and you're going to to sort of select who are nearest to you/ that's probably the easiest way to do it/but the group will remain the same OK and obviously there ***pretty logical if ***/ speaking at a time helps us not only to hear what other people are saying but it also gives us the opportunity to hear what everyone else is saying/ and that's the second rule that everybody has the opportunity to speak/when we're working in group I don't want people not being listened to/ everybody is a valuable/ regardless of what you think as an individual /so it's important that you're prepared to listen and not try to *** / and this is the first rule/ listen to the other person speaking/ in other words make sure that you're concentrating on on what on what they are saying rather than thinking of what of what you're going to say next/ it's important /listening skills are very important/ it's how we gain a lot of our information by listening and listening well/ if you listen well mine or somebody elses' idea might spark a better one in you	
	It's like when we were gathering clues the other day about a murder/ we don't dismiss anything until they've investigated it/ once we've investigated it we can then say well is that valuable or not/ we just don't drop it as an idea because it may in actual fact lead somewhere that we initially couldn't see /so it's important to listen to everybodies contribution carefully/ OK/ and obviously when we're working in teams which we'll be doing today keep your voices down/ there is only one person speaking at a time	
2	OK we've got 5 or 6 groups in this room. 5 voices/5 fours are 20 25 yeah OK/ there are about 6 groups in the room that means there's going to be 6 people talking/ now we're in a relatively small room/ the acoustics of the room aren't great and you can hear a slight vibration even when I'm talking/ so be aware of that not only you will/ will it get too noisy/ not only will you disturb each other you will end up disturbing other classes next door and they will not be particularly happy about that/ so remember those rules/ I'm going to leave them on the wall to remind ourselves but I'm sure we can all learn to manage that/ there's no great deal	

	here/ what we're going to start today in this topic	
3	this is what we are going to start today /but your task is to start off with is what process are we going to go through to find out about Egypt the land of the Pharaohs/ you will do this in group work OK/ so we're going to set what you're going to do/ set up the process of inquiry into that /and what we've got to do in order to do this is/ what as an historian what do you do to start off the process of inquiry	
4		look at records of another ***
5	oh that's true/ we'll eventually do that/ but where do we start	
6		um try to look at what we know
7	what we know/well we could but let's assume/ we know nothing	
8		why don't we go to libraries and try to find out something
9	what	
10		***the (facts??)
11		oh what ancient Egypt is or where
12	OK we start to set up a number of questions which we can call if you like some focus questions/ they become what/ compared with our murder case/ what do our focus questions become like	
13		um our clues
14	yeah our clues/ so we set up a number of focus questions that we treat like our clues/ so that what we what you're going to start to do this lesson	
15		sir are you going to specify/ like/ each person in the group a specific task
16	no you will eventually do that um but I will explain that in a minute/your're going to get into groups and it will be fairly straight forward/ alright so that we're going to set up a number of focus questions that may/ we'll treat like clues/ and we might in actual fact have a series of sub-questions under each one of these focus questions/ and is already suggested one of the easiest focus questions to establish / where was it OK so that's an easy one to think about/ so when beginning an investigation of an/ land of the Pharaohs Ancient Egypt/ we have to set up a number of focus questions which we need to	

	then investigate and discover what/ what are we going to end up discovering	
17		what/ all about Ancient History
18	well we might/any other ideas	
19		where when what who and why
20	yeah/ we're going to start answering those questions/ questions that historians ask/ arent' we/ prior to beginning/ so remember those questions when we're setting up our focus questions/ we sort of put when and what together/ how and why/ those are the sort of the 3 things we're saying that historians start addressing before looking at any questions	
21		sir could we have food
22	we could have food too couldn't we/ because after all we could ask who are the Pharaohs	
23		**
24	yeah so we/ we in actual fact we might be able to identify the Pharaohs by investigating/ find out something else about Ancient Egypt/OK so there's some ideas/ now while you're/ what I want you to do is physically rearrange your desks into groups of 4/ *(counting)* 22 somebody's away /who's missing	
25		James
26	so he is /yes OK we'll have to have/ we've got 22 we'll have 2 groups of 5/ now before we before we break up into our groups make sure once you've the first thing you will establish is that you've got you've got somebody to record the ideas expressed/ so somebody just jot down the ideas that are expressed/ firstly roughly /then I'm going to give you a piece of paper to write out all your ideas in neat form/ I also want you to appoint somebody to make sure that we follow the rules that everybody gets to a chance to speak and that person or the chairman if you like/***I don't particularly care what you call him but make sure that everybody has a chance to participate/ I don't want anybody being left out OK/ so if the chairman/ if there is somebody trying to dominate all the ideas the chairman should remind him that / let somebody else might have a turn as well /OK /you might have somebody to help the reporter to make sure that they're getting all the ideas written down /and if something is being written down give that person time to write down everything /** don't think you need any any others to um be involved in that/ remember of course that when we come to finish	

	this exercise that your group is going to report to the class as a whole/ OK so you so you'll have to appoint somebody to to report on what they've written	
	to report on what they've written down/ OK right /get organised into your groups and I'll go and get you some bits of paper/ move the desks/ don't make a lot of noise	
	Students work in groups.	*Transcription of Samuel, Chris, Alex and Jeffrey and written questions appear at the end.*
27	OK thank you gentlemen/ you should have a good slab of questions now/ on your big/ on your um A3 sheet that I've given/ you should er record a nice neat copy of your aahh questions /and also on that white sheet/ Iwant you to put the names of the members of your group/ the names of the members of your group**now while the recorder/ while the recorder is writing down their final copy please/ everybody else check that is you've got your names	
		Students talking
28	I'm not competing with you/ other people in the group please check that your list is being recordered/ don't leave anything out/ you've got about 5 minutes thankyou	
29	while we're waiting for the scribes to um complete their lists /ah to keep our um that give us aah our records of all our focus questions/ perhaps we can start sharing some of them um/ and we'll start by the scribes if you haven't finished you just keep going ahh /the rest of us can get involved in this/ we'll just take a group that has completed theirs and um and we'll start identifying some of the focus questions that each of us have come up with/ and then we might be able to find the most important focus questions/ and maybe um add some/ reduce some/ combine some of the ideas that have been expressed today/ OK so the group over in the back corner and start off with one focus question	
30		how did they build the pyramids
31h	how did they build the pyramids	
32		was there***

33	whoa/ whoa	
34		***
35	well the thing is /that is a question that we can um we can address isn't it/ and in actual fact to discover	
36		** how did they build the pyramids**
37	that's a question we can start to address/ a few years ago there were ahh /a few years ago there were some popular book going around about how aliens came down and helped the Egyptians to build the pyramids/ these are/ if you expect to know that it's virtually impossible with the technology that they had at the/ the Egyptians had at the time to do what they did/ in actual fact not so many years ago there were a group of archaeologists that actually followed the same methods to construct a pyramid just to prove that you that you can do it with these sort of methods/ so that's good /that's an initial good questions/ after all the first thing we think of when we think of Ancient Egypt are those enormous constructions just outside Cairo that actually dominate the landscape/ to such an extent that you can see them for miles and miles around/ one question	
38		sir can um our question how did/ how did the Egyptian empires rise out of the ground one day when there/ because there was no evidence of it one day and then it was there as a thriving community the next day/ why did the pyr/ why did the old pyramids survive intact and not the newer ones/ you would think that the Egyptians would after the first experience making the great pyramids outside Cairo/ why wouldn't the um smaller ones elsewhere survive
39	lots of questions in that isn't there/ um first of all let's take the first one Blair /which is an/ which is um probably a good place to start/ how did the Egyptian empire begin/ we are going to be looking at several ah ancient societies but it is always an interesting question to ask/ where did this great empire this great civilisation begin / and related to this may be one of our other focus	

	questions so let's get another one here	
40		how long did it take to build a pyramid
41	well you/ it that's a sub-question for this one here really/ we can we can put that one with that one	
42		**
43	** very hot	
44		**
45	Oh right OK/ are we just sticking with pyramids/ where	
46		**
47	Oh time taken/ where	
48		what do they do with the Pharaohs after they die
49	we're going to change the er/ is that another focus questions or a sub question of this one	
50		no ah another focus question
51		another focus question
52	why do you want to ask that question anyway/ because just that's presumed isn't it	
53		the role of the Pharaohs
54	Ah well /what is the question we ask before that/ when we we say what did they do with the Pharaohs after they die/ we're already assuming some prior knowledge aren't we/ what sort of prior knowledge are we assuming	
55		who are the Phaoaohs
56	yeah who are the Pharaohs /or even to the extent /what else/ what other prior knowledge are we assuming	
57		*classification (??)
58	yeah/ we are doing that as well	
59		what are they

60	what are they/who are they/ so we could actually ask the question something like who ruled Ancient Egypt and that's er /and then we would discover that is was the Pharaohs /and then we could ask the question well /who were they /what did they do and then we could go through that series of questions couldn't we ** /I haven't got a scribe yet but the rest of you have got tongues	
61		um how did the Ancient Egypt/ Egyptians affect us
62	how did they affect us	
63		
64	good question isn't it/ you know what/ what do we owe to Ancient Egyptians/ whose question is /you know ultimately something that we investigate/ what did they give to the world/ it wasn't just pyramids and mummified Pharaohs and what have you/ it maybe some other things which we'll discover about/ I think we're still missing an important focus question somewhere along the line folks	
65		Um how did they develop their Maths
66	OK they must have developed a fair bit of understanding of how to build things when you consider what they did build/ they must have had a very good idea of basic engineering in order to do it/ so we'll discover some of those things as well hopefully/ we're still missing something/ while I'm writing this on the board it might be a good idea for everybody to take a record of them so we can remind each other of them	
67		when and where
68	have we got where/ no	
69		es we've got where
70	yes we've got when where how	
71		what were their main industries
72	yeah what were their ** /are we all writing this down now	
73		**
74	yes please	
75		um um what were
76	Sh Sh listen	
77		what were their foreign affairs like

78	what were their foreign affairs like/ that's their relationship to their neighbours /but these days we call that foreign affairs/ I don't know what they would have done it in Egyptian time/ what else/ have we covered all the things that we needed to know/ we've got when when where how did it start/ how did they build the pyramids /just pyramids	
79		sphinx
80	yeah all sorts of buildings/ so we might look at their *(upward inflection)* we might look at their architecture generally because you know/ they just didn't build pyramids/ they built obviously sphinxes but they would have built towns/ all sorts of things which we may tell us more about them	
81		**
82	we've asked the question who will be/ does that lead us to anything else	
83		how was it built
84	yeah we say something like How was society organised/ OK/ so if you think about our our society right now/ and if you wanted somebody was investigating what Australia was like in 1998 you'd ask what the government was like and how society was organised/ and we may in actual fact/ we may find that in ancient Egypt the way things were organised in the way things ran/ or were made to run was entirely different to our modern experience / their system of government is obviously different /I don't think we call Mr Howard the Pharaoh of Australia/ and we certainly don't mummify him when he's dead and put him in a pyramid /so our attitude towards our leaders may be entirely different /some people might like to mummify him but /you know some people may think that he's already mummified/ yes I know/ but that's another issue /OK /so we've got to think about how society is organised/ in actual fact we might/ something about that organisation that we may say is very similar to what we do now/ or we may discover it is very different/ anything else/ government/ society/ we've looked at main industry/ what sort of industry do you/ can we break that down into sort of subsections/ think about what Australians do now /they don't all do the industry/ there are going to be some other things that we may look at/ what do you think would be important to the Ancient Egyptian/ Egyptians.	
85		Um what what religions did they have

86	Oh yes/ we haven't got that at all have we/ the main/ Egyptians/ you can ask what sort of religions they had/ what belief systems they had	
87		**
88	yeah OK	
89		traditions it goes with religion
90	tradition goes with religions/ it certainly does /OK /so we can start to ask what sort of traditions they had/ they used to have an annual holiday/ what a good idea/ so good we still do it today.	
91		christmas
92	well yeah/we do today/ it's something else you'd find anything else	
93		**
94	no there was a **(fort??)	
95		**
96	oganisation of society/ we've got that/ how society was organised/ will we say something under that	
97		**
98	yes OK /now before you go gentlemen what I'm going to do is hand out these which I want you to put in your folders tonight/ as I come around could the scribes please hand me your questions/ for homework what I want you to do is not read all the things that I'm giving you/ but what I want you to do is to just skim through it and see if any to the headings or any of the sections in this handout out stimulate some more questions that we can investigate.	**Bell to end lesson**

Group Discussion On Focus Questions - Four Students - Chris, Sam, Alex And Jeffrey

Questions students came up with were:
(Note spelling is as per student sheet)

Where is Ancient Egypt?
Who were the Pharoahs?
How did the Ancient Egyptian civilisation begin?
How long did it last?
How were the deceased Pharoes preserved?
What were the Egyptians renownd for besides building pyrimids?

What type of food did they eat?
What famous battles, wins, defeats existed?
Where they very architectual?
What religions did they belive in?
What was there lifestyle like?
When did the Egyptian Empire exist?
Who did they trade with?
What currency did they use?
Where did they explore?
Did they have a big population?
What were famous cities of Egypt?
What language did they speak?
What was their number system?
What traditions did they have?
What was the form of transport?
How did they communicate with other countries?
What were the Egyptians famous inventions?
What form of government did they have?
How did the Ancient Egyptians affect us?

Transcript of group discussion
Individual students not identified

Students spoken text	Written text
hey why don't we have **so someone misses out on **	
hey what am I doing	
then you write it up	
you write it up**	
I can't write neat/ I'm very messy at writing	
OK so what are we/ then you write it ***Chris	
what questions do we have to ask	
pardon/ you write it	
I don't know very much about Ancient Egypt	
yeah/yeah/yeah/yeah	
****modern day Egypt	
I only get one of these	
good on you	
OK um any other questions	
*** we better wait	
um how did Ancient Egypt exist or something like that/ like that	

that's a good one	
	How Did the Ancient Egyptian Civilisation Begin?
who hasn't even asked a question yet	
do you want me to make one	
yeah	
OK then/ how did it star/ um who were the Pharaohs	
	Who Were the Pharaohs?
um OK now/ when when did it	
um	
and what was it like	
OK what about/ what about the pyramids	
what	
the pyramids	
oh yeah/ how did they make them	
something like that	
****	
yes and um um ***how are they made	
yep um who are they for	
I can't/ I don't have anything for how were um how were the Pharaohs put there	
what about the Valley of the Kings	
Tutumkahma*****	
um you know/ put there******	
um/ you know about ***and you know****	
what foods did they have	
like what food did t hey have/ they might have***	
	What Type of Food Did They Eat?
do you mean in the cities	
how did they farm	
unclear discussion	
what vegetables did they have	

how did the Egypt/ how did Egypt get***you know like/ that's with/ that with um victory***	
what were the famous victories of the first war	
was that the	
they can all be classified as that	
I don't know	
	What Famous Battles, Wins, Defeats Existed?
well it's very general/ questions that we have at the moment	
like what	
we don't have many/ more complex	
more complex	
yeah um	
architecture	
what will we say	
architecture/architecture**	
**yeah architecture/ the famous architecture of the city	
***** Few exchanges unclear	
	Where They Very Architectual?
um what religion/ what about religion	
****	
****	
remember**	
we need to know what religions they had	
	What Religions Did They Believe In?
what was their lifestyle like	
what caused the fall of the Egyptian empire	
ask that later	
victories (??)	
put that at the end	
huh	

put that at the end/ like how did the fall happen	
um um what was the question/ who what when where	
why	
what part of the	
yeah	
when when/ what did the/ when did the ******	
haven't we written that down	
how did the Egyptian/ how the Egyptian/ how Egypt cam about	
yeah/yeah/ we've don that in the first question	
can we go back about ten questions	
huh	
what countries do they have trade with	
unclear	
what/ what did they trade	Who Did They Trade With?
we've already done that/ we'll include it in the other one	
um exploration	
****	
yeah everything is valid / don't worry about it	
***	
anything you think	
****	
**population	
oh we know the population	
****	Did They Have A Big Population?
um	
apart from Samuel's question	
what****	
see what I mean	
****lifestyle(??)	
yeah	What Was There Lifestyle Like?

OK	
do agriculture	
yeah do agriculture	
Egyptian agriculture	
agricultural products	
put agriculture/ then Egyptian agriculture	
***	
**relationship to water (??)	
how/ how did they *****	
***	
isn't that part of religion	
no	
like ** what traditions did they have	
	What Traditions Did They Have?
we're down to ****	
transportation	
****	
I don't think we'll be able to find out	What Was the Form of Transport?
communication	
Egyptian communication	
Egyptian communication	
um/ um	
um	
um inventions	
OK Egyptian inventions	
I think they invented quite a bit	
famous inventions of Egyptians	
	What Were the Egyptians Famous Inventions?
****	
oh yeah	
how did they do that	
um	

um	400
** something to do with war/ I know you can't really say of course/ all you can say is yes they're powerful/ than you can add to it	
yeah	
monarchy	
yeah	
I know you can't really say they're powerful because/ of course/ they're powerful/ all you can say is they're powerful and add to it	
yeah/ why don't we end with government	
monarchy	
what about government/ what type of government did they have	
	What Form of Government Did They Have?
what battles did they have	
yeah/ let's do it first/ let's be pretentious	
what type of government	
****	
that's what I like	
but how has / how have the Egyptians affected us/ how has the Egyptian Empire affected modern day people	
OK I'll translate it	
***what does the last one say	
what	
how have their food and lifestyle affected us	
oh well don't take it out/ that's what I mean	
	How Did Ancient Egyptians Affect Us?

Appendix 15: Transcript Egypt 2 lesson

Turns	Teacher	Students
Episode1	alright now last lesson/ ssh sssh/ focus questions/ we were working in groups thinking about what sort of questions we would have to invent/ to discover about Ancient Egypt and I put all those brainstorming thing that each group did/ we ran through some of these and I gave you those handouts and said/ see if you could think of any others after you'd had a quick browse through those/ we'll get onto those in a minute but let's go back a step/ we start by identifying our main focus questions/ with which questions are we going to star/ with which questions will we start	
2		when
3	well OK / when	
4		where
5	OK when/ now I don't think that wall's going to fall down later today/ but with you holding it up it will be...	
6	so how are we going to find this out/ how are we going to find an answer to these questions	
7		books
8	yeah books/ that's always an easy way to do it/ we're going to establish a journal of our research OK/ so we are going to establish some sort of record of what we are finding out/ we've also got to work out a way of presenting our answers/ let's start with where/ if we we're going to order our findings/ what is the best way we could report on our findings for the answer to where Ancient Egypt was	
9		can't
10	can't/ no idea	
11		**
12	no no/ what's the best way to report them/ that's the answer/ what's the best way to report or to show to tell where Egypt was	
13		draw a map
14	maybe a map/ maybe a map/ just one map	
15		no
16		one of where it is on a world map and one where it is close up
17	right OK good/ we might put it on a world map/ so we are able to put it into the context of where it is in the world/ if	

	we were going to do that/ and we were going to do another map/ what would be the other map	
18		you could use co-ordinates say****
19	well that might be some detail we could put on the world map/ we could have latitude and longitude and pretend we were geographers for a little bit of time/ or cartographers/ cartographers are what/ what's a cartographer	
20		a person who draws maps
21	a person who draws maps/ yeah	
22		we could do another map of / um Africa/ South Africa
23	Right/ we could do a more detailed map of	
24		Egypt
25	sort of North Africa	
26		
27	north/ what part of Africa is Egypt in boys	
28		***
29		***
30	north east/ thank you/ Africa/ north east Africa/ and especially what would we show in that detailed map	
31		any bordering countries
32	OK/ we have to make sure we've covered/ the actual**and its neighbours maybe/ what else will we show on that more detailed map that will tell us a little bit more about the land of the ancient Pharaohs	
33		the cities
34	the ancient cities/ we'd have to do a bit more research on that one/ but that's OK	
Sequence 2 35		there's one here
36		rivers and hills and mountain ranges
37	ah thank you/ we could generalise them and just call them physical features/couldn't we	
38		distinguished landmarks
39	distinguished landmarks/ physical features/ voila	
40		could you do a map of what it was like in that

		time/ like some of the countries might have had different borders(??) or something
41	yeah they might have/ very much so/ we could do a comparative analysis of the modern and ancient maps/ looking at the handout that you've got/ you've actually got a map of Egypt/ what would be something that perhaps would influence the change in maps/ how's our geographical skills/ what is the thing that would possibly change the map of Egypt from sat 3000BC to what we are right not/ 2000AD/ what's something that possibly could have changed the shape of that area of the world	
42		S1: lakes could have grown bigger or smaller
43	yeah why	
44		S1: because seas could have moved/ ice caps would have melted
45	possibly/ I don't think so/ but possibly	
46		S2: erosion
47	erosion/what else	
48		S3: people going**
49	I'm not sure how that would change the physical features	
50		S3: yeah but like towns would have changed
51	true/ towns would have come and gone/ disappeared/ been destroyed/ changed locations	
52		weathering
53	weathering/ yes possibly/ when we look at that map of Egypt/ what is the thing that really sticks in your face	
54		the plates could have moved
55	well they move all the time/ but I don't think they move that much	
56		no
57		there's a big dam down the bottom
58	there's a big dam down the bottom	
59		no it's the Nile
60	yeah the thing that dominates the map is the river isn't it/ the Nile river	

61		its shape/ the change in shape
62		***
63	yeah OK	
64		***
Sequence 3 65	have we all found our maps/ the Nile river dominates our map of Egypt/ it could have changed its course	
66		does it flow
67	well it does flow/ well it used to	
68		it dries up
69	not since they've built the Aswan Dam/ it does flow every year/ the other thing that would have changed also/ right at the north end of the map/ it changes in what we call a...*(raised inflection)*	
70		tributary
71		delta
72	delta/ thank you/ now a delta if you look at the map of/ I wasn't going to make it a geography lesson but I may as well while we are here/ that's the coast line here/ you'll see the river braid out into a whole lot of fingers/ what's happened there is that the river has slowed so much/ the land around it is so flat that the water starts to spread out and it starts to drop all the silt and debris that it is carrying in the water/ all the mud that is in the water/ and then it starts to build up these sort of islands and braiding streams as it spreads out across the landscape/ basically the river's dumping more and more mud in the / what sea	
73		the Mediterranean
74	Mediterranean sea/ right/ also it means that the Mediterranean sea just there doesn't have/ if you had a lot of currents in the ocean just of the river than all the mud would have been taken away/ but the Mediterranean has very few currents just there and as you well know/ the Mediterranean sea doesn't have tides either/ well it you didn't know you do know no/ OK so the mud isn't taken away/ so it just builds up/ that's one thing that has changed quite significantly since ancient Egyptian times/ that delta has actually grown further out into the Mediterranean sea over time/ what else do we notice about the Nile river in that map	
75		**
78	no that's the modern one/ in this one here	
79		it's running into a dam
80	yeah anybody know about this dam/ what is the name of this dam	

81		the Aswan High Wall Dam
82	yeah/ the Aswan High Wall dam build during	
83		1980
84	President **(Nehru??) changed the landscape again because when they build that it actually flooded the southern areas of the ancient Egyptians	
85		and they had to put ****
86	yeah they put temples and everything out of the valleys so they wouldn't be flooded/ quite an enormous operation/ and later on in the term we'll have a quick look at the video** as they were moving things so you can see exactly what they moved	
87		yeah on the Ancient Egypt it says EDFU and ****
88	yeah some of the names have changed/ it certainly has/ and as you can see	
89		Cairo's got bigger
90		general discussion
Episode2 91	right so that's the first thing we've answered/ where/ now I'll make life easy by giving you a world map with Egypt on it so we don't have to run around pretending we are cartographers/ if you look very closely at that world map you'll notice that the map of Egypt is dominated by the Nile River/ then just have a look and see if you can find a place by the name of Sumer	
92		yes sir
93	OK/ notice what dominates the area around Sumer	
94		Asia
95	no what feature/ what physical	
96		Indian Ocean
97		Mediterranean
98	what does it have in common with Egypt	
99		it's got lots of rivers
100		it's next to a river
101	yes/ it's got actually two rivers/ it's a land with two rivers actually/ does it tell us something about ancient societies and rivers	
102		they build near rivers
103	yeah they sort of go together/ I wonder why/ can anybody	

	come up with a solution why	
104		the river was a good source of growth/ when people were stil hungry and then all the animals would (gather??) there
105	that's a possibility/ what did most of our early civilisations feed on/ have you got the answer for us	
106		it was so dry that so they**by the river kind of
107	why was the river so important/ for what	
108		water
109	water yes	
110		fertilisation
111	fertilisation/ irrigation/ we're looking at areas of the world where man is moving out of just being a hunter and gatherer / following the birds around and gathering things/ he's actually starting to become sedentary/ which means what/ staying in one place/ so if he is going to stay in one place and build a town he needs a reliable source of water. Not only for himself and his family/ but for livestock	
112		doesn't dry up
113	and doesn't dry up/ and is able to irrigate his crops with/ so he can grow more food/ he grows more food he's got more **/ so rivers are pretty important/ so one thing that we've got to make sure that we put on our map about ancient Egypt are all the sorts of things that make it secure for the development of an ancient society/ so a good source of water/ what else does it have/ what else does Egypt have as a locational advantage/ if you look at the map what other advantage does it have as an area	
114		it's surrounded by countries
115	well what about its surrounding countries	
116		trade
117	well surrounding countries could be important for trade/ who would ancient Egypt possibly have traded with/ look at the map/ you can see the ancient societies/ you can see the dates they existed/ have a look/ work out who they would have traded with	
118		the Greeks
119		the Sumerians
120	the Greeks/ who else	

121		Latins
122		Spanish
123		the Romans
124		the Sumerians
125	the Romans/ possibly the Sumerians/ how would they have got there	
126		by boat
127	by boat/ OK so we are looking at societies now that are living near or developing near a means of transport/ the easiest means of transport in those days was by	
128		sailing
129	boat/ sailing/ across the Mediterranean sea/ what about their neighbours/ their immediate neighbours in Africa/ who would have been on the right and left of them	
130		S1: Sudan
131		Asia
132		China
133		S1: Sudan
134		Minoan
135	Egypt is surrounded by what	
136		water
137	no it isn't	
138		desert
139	desert desert/ thank you/ what is the advantage of being surrounded by desert	
140		noone attacks you
141	nobody could attack you/ it's very difficult to be attacked when the armies have to cross the desert/ without water in the hot and sand/ the whole disaster/ so the ancient society of Egypt would have been fairly secure	
142		they would have come up the river
143	yeah/ they could come up the river/ but it was relatively easy to defend/ the only way they were attacked was by which direction	
144		north
145	from the sea yeah/ from the north/ who eventually conquers Egypt	
146		Rome

147	Rome right/ the Romans were able to do it because they had good battle (commanders?? tactics??)	
		general discussion
Episode3148	alright/ we've got where/ we've shown that by the map/ we can then look very closely at the map and we'll do this later on/ I'll just get you to make a list of all the natural features/ physical features/ that were important to Ancient Egypt and obviously we've identified those- the rivers the seas for trade/the river for irrigation/ the desert for protection/ the floods that came out of the Nile for fertilisation of the soil/ we'll go through all thee things/ so we'll know where and what sort of location ancient Egypt had/ to when/ best way to illustrate when/ what's the easiest way of illustrating when ancient Egypt existed/ we could write down the dates/ but that's not the easiest way of knowing when	
149		timeline
150	timeline/ OK/ see if you can find me a timeline/ OK the unit that I just gave you/ first page >land of mystery'/ the first page of the one I just gave you > land of mystery'/ right when can we identify the beginning of Egypt/ I need a date/ someone give me a year when I can identify somewhere about the beginning of Egypt/ yeah	
151		S1: two thousand BC
152	is that in the reading	
153		S1: Oh/ three thousand one hundred
154	what's that little >c' full stop above the three thousand one hundred	
155		century
156	that's close/ if I wanted to indicate a century I'd write a big >C'/ but what's this little c	
157		cera
158	close/ that's the word/ latin/ who does latin/ OK we'll test your Latin/ the word is circa	
159		S1: we haven't been learning it that long
160		S2: round
161		S3: circles
162		S2: round
163	around/ circa an old word that comes from circa/ so around about/ circa/ around about 3100 BC what happens/ what happens around about 3100BC	

164		unification of Egypt
165	yes/ unification of Egypt/ when does that timeline recognise that the Empire came to an end	
166		30 BC
167	30 BC	
168		when Rome takes over
169	we're actually looking at/ we're looking at a period that extends over 3000 years/ so the Egyptian who lived at the time of the death of Cleopatra would have known as much about/ would have felt well/ maybe they didn't know as much about it/ you think about it/ if we study something 3000years old it is 1000BC/ OK so for the Egyptians living at the death of Cleopatra/ they were nothing like the Egyptians and what they knew and what they thought about the Egyptians that were around at the beginning of the Empire/ so we're talking about a lot of changes/ so when we're starting to study the ancient Egyptian we're going to find that there were many changes during this period of time / and we're going to make some pretty outlandish generalisations about them/ which are generalisations that are not particularly true for some of the periods/ so we are going to have a look at some of the periods within the Egyptian empire/ we won't be able to cover the whole 3000 years because that's like studying everything since the birth of Christ plus some/ OK so that's not possible/ what are some of the things that the timeline identifies as important events/ what are the sort of milestones you think you might be looking at according to this timeline looking at according to this timeline	
170		New Kingdom ends
171	what was that	
172		New Kingdom ends
173	yep/ New Kingdom ends	
174		Syrians
175		Old Kingdom
176	the Old Kingdom begins yes	
177		*****
178		the Pyramid age
179	the Pyramid age begins yeah/ OK/ alright so these are some of the things we are going to be looking at/ we'll be looking at the Pyramid age	
180		*****
181	*****well the Pharoah was a sort of god/king/ so yes	
Episode4182	right so we'll be looking at the pyramids and what else/ what is something else that we have to look at as far as	

	some of our focus questions were concerned/ we've decided on whom/ it's obvious that we are going to be looking at thing like/ focus questions like what/ ** said architecture/ I suppose that's pyramids/ what else/ what would we look at to discover what the Pharaohs were all about/ we'd ask the question >How was Ancient Egypt in relation to their Pharaohs	
183		***
184	that could be important too	
185		***
186	yeah their government/ you know/ OK OK/ how was ancient Egypt/ let's say Egypt/ I'll write shorthand/ how was Ancient Egypt / the Pharaohs/ how are they governed/ obviously we'll just take some examples because again we're looking at a 3000 year period/ it's going to be different at different times/ we're going to make some generalisations about how Pharaohs behaved	
187		invasions
188	we might look at their**	
189		**Syrians invade Egypt
190	yeah that's true/ that's it	
191		***
192	now I've written a focus question up on the board/ what relationships did Ancient Egypt have with her neighbours/ now invasions in actual fact is a sub-question of that/ isn't it	
193		yes
Episode5 194	what other sorts of relationships would a nation have with its neighbours/ we've already mentioned one	
195		trade
196	trade yeah/ the most obvious one/ what sort of trade did Egypt have/ who did she trade with/ and where/ we've already worked out that she probably would have traded by sea across to Ancient Greece/ across to Rome maybe to Eastern Europe	
197		Libya
198	Eastern Mediterranean/ maybe all around the Mediterranean/ also with Africa/ with South Africa/ through the south of Africa via the river/ so we'll have to look at that/ what they/ what sort of things/ what sort of things would they have got from Africa do you think/ the southern part of Africa	
199		baskets
200	possible	

201		gems
202	yes/ yeah/ because Egypt/ all you've got to do is look at any of the decorations that the Pharaohs used/ they must have gotten gems and gold and all that from somewhere/ Egypt's in the middle of the desert	
203		food
204	they would have had a lot of sand/ yeah/ a lot of mud/ they didn't have much timber so that is something else they mightn't have had in large quantities that they would have had to trade for	
205		they didn't use wood
206		yes they did
207		when they were building the pyramids they used timber too
208		no they didn't
209		they used stone
210		they used wood for ****
211	yep	
Sequence 2 **212**		did Egypt ever invade anywhere
213	well we've put the word invasion/ so we can talk about people who invaded Egypt and people who Egypt invaded/ so we can do both things there	
214		****
215	**** remember those sort of products are perishable/ it would have had to be something they were able to move without having it rot/ alright/ so that's another focus question/ we can concentrate on/ how was it governed / what relationships it had with its neighbours/ what else would we like to know about Ancient Egypt	
216		if there was like a little community or a big community
217	yeah alright/ OK/ we can look at the/ this will make it sound more complicated than it is / but we can look at the social/ we can look at/ we can look at the changes that took place during the period of Egypt/ what else	
218		we could look at lifestyle
219	yeah/ that's probably/ we could ask a simple question/ we could ask the question what was it like to live in Ancient Egypt/ and sub-questions to divide into that would be something like	
220		how did culture change

221	yeah/ we could come into that one/ what are the relationships/ you could add that there	
		what they ate
222	OK food/ we can see what they ate and how they grew it/ we know the Ancient Pharaohs used to go for hipp hunts in the Nile just for the fun of it	
223		general discussion about the morality of hunting for sport
224	gentlemen I didn't ask you all to be environmentalists/ what else	
225		you could see**
226	ssh/ listen	
227		like say you were**/ how you did that/ like what happened
228		horoscopes
229		piracy
230		their number system
231	what could be/ could we put that under a whole sort of um/ we'll just call it education/ learning/ for money and trade I've just put commerce/ in other words/ how did the Egyptians buy and sell things/ did they /you know/ the ordinary things that they had to trade/ how was that carried out/ the sort of system they used/ marketplaces etc	
232		what was the um weather like
233	yeah/ we haven't looked at that at all have we/ we sort of mentioned it under the map didn't we/ but we didn't actually highlight it/ physical environment	
234		politics and how the government
235	um how was ancient Egypt governed/ is that OK/ does that come under that	
236		religion
237	oh yes/ we can actually put that in there can't we/ cultural changes/ we can put religion in there/ what religions are the Egyptians today	
238		Catholic
239		Muslim
240	muslim/ yeah/ so something happened/ they wern't muslim back in the Pharaohs days / so something's happened to	

	change them	
241		they had idols
242	yeah/ it was based on/ yeah/ it was based around the Pharaohs sometimes/ the river was considered very much a part of that/ so was/ yeah/ they had a whole series of gods/ is that enough or did we leave something out	
243		where did the Pharaohs get their riches from
244	yeah/ Egypt was obviously a very powerful nation/ and a very wealthy one/ you might investigate how they got their wealth/ what it was build on	
245		aliens might have gave it to them
246		*(general discussion about aliens)*
247	we can display/ today we will be displayed/ just by the use of that handout/ the fact that we know where and when Egypt existed and we'll think about ways we can set up our own** later on/ we've established that there is a whole series of other questions we can relate to / how it was governed/ what sort of architecture had it developed/ what relationships it had with other countries/ remember when we look at that we'll discover what they learnt from others and what they taught other nations/ who they invaded and who they were invaded by/ who they traded with and what they traded/ the alliances that they established and the changes that took place in Ancient Egypt over 3000 years existence/ we'll have a look at its society and culture/ its religions / the way the society was organised/ the fact that in Egyptian times there were varieties of levels of social status from Pharaoh to peasant/ just ***I suppose as well/ and what it was like to live in ancient Egypt/ we'll look at things like food/ work/ commerce/ learning and health/ OK so just in the last five minutes/ you've got five minutes/ jot down that list of focus questions that we are going to be concentrating on.	

Appendix 16: Overview of transcribed Egypt lessons in History unit.

Egypt 1: Establishing focus questions for the unit

Episode	Turns	Content
1	1-26	establishing groups and setting group task
2		students worked in groups
3	27-37	establishing focus questions: how did they build the pyramids? Role of the Pharaohs?
4	38-47	How did Egyptian empire begin?
5	48-60	Role of Pharaohs and who they were?
6	61-66a	Egypt's contribution?
7	66b-78a	What were their foreign affairs like?
8	78b-84	Architecture and how society organised?
9	85-97	religion/traditions?

Egypt 2: Consolidating focus questions

Episode	Turns	Content
1	1-90	Where Egypt was?
2	91-147	Importance of Nile
3	148-181	Looking at timeline
4	182-192	Government
5	193-247	Trade, food, religion

Egypt 3: Where? the physical environment

Episode	Turns	Content
1	1-40a	Physical environment
2	40b-112	The Nile
3	113-141	The desert
4	142-179a	Writing implements, climate preserving artefacts
5	179b-229	The Sea

Egypt 13: Who? Role of the Pharaohs.(short lesson)

Episode	Turns	Content
1	1-40a	Responsibilities
2	40b-47	Symbols

Egypt 14: Egyptian army

Episode	Turns	Content
1	1-13	Discussion of chariot soldiers
2	14-37	Weapons developed from farming
3	38-63	Front line soldiers
4	64-88	Other types of soldiers

Egypt 15: Social pyramid

Episode	Turns	Content
1		Students sent to do group recording
2	1-17a	Pharaoh level 1
3	17b-65	Bureaucracy Level 2

Egypt 17: Building a pyramid

Episode	Turns	Content
1	1-15	Demonstration of how ground was levelled

Appendix 17: Pharaohs in Ancient Egypt: A play

APPENDICES

APPENDICES

APPENDICES

APPENDICES

Appendix 18: Transcript The Egyptian army lesson

Turn	Teacher	Students
1	*Teacher reads:*The Egyptian army was a large very powerful force. It was used to protect the land of Egypt against enemies such as the Nubians and Hittites who were Egyptian enemies	
2		Nubians and Hittites
3	*Teacher reads:*There were 20,000 soldiers in the army at the time of Rameses 11 Most of the men were footsoldiers what are footsoldiers/ infantry	
4	Perhaps the best fighters in the army were the chariot soldiers/ what's the advantage of being a chariot soldier	
5		faster than the rest
6	faster	
7		more protection
8	higher degree of protection	
9		S1: yeah and you can get your horse
10		S2: use your horse to trample over people
11		S3: you wouldn't get tired
12		S1: if you had to get away
13	it's easier to run away so you can outmanoeuvre and out** the men	
14	look at question one/ identify by number the soldier or soldiers who carry each of the following weapons/ bow/ quiver/ club or mace/ spear/ battle axe/ curved sword or scimitar/ throwing stick/ question two which of these weapons do you think have developed from Egyptian farming tools/ which weapons were developed from farming tools and which from hunting tools	
15		the axe
16		easy axe/ spear
17		battle/ battle**axe
18		the what
19	from farming tools	

20		scimitar
21		what's a scimitar
22	a curved sword/ a sickle/ what's a sickle used for	
23		harvesting
24	harvesting/ OK/ so excuse me/ thank you/ so the most obvious and perhaps easiest to identify is the curved swords or the scimitars that are probably evolved from / to harvest wheat/ with the sickle is the most familiar weapon and tool we know/ the other one is the scythe/ the longer handles one which people used to mow the grass with so that's only/ that's fairly easy to identify	
25		battle axe
26	battle axe/ more than likely a domestic tool for either cutting wood or chopping plants down to trees down	
27		they didn't have trees
28		*****
29	um they had palm trees/ alright any other weapons/ any other weapons we can identify as being developed out of domestic use/ domestic use	
30		****
30		hunting
31		shovel
32	***	
33		****
34	spear	
35		swords****
36	broken swords were usually converted into***/ what else have we got that are obviously hunting	
37		*general discussion*
38	alright we'll go across the top and to follow these in order/ thank you gentlemen/ character number one is obviously a soldier/ you can notice there he had a long shield/ a body shield protecting him	
39		from arrows
40	from arrows and from other	
41		other spears
42		where is this

43	other spears/ we would expect to find him at the front line of the army so he would/ because of his kind of protection/ you will notice that the next character has a similar type of weapon/ he has a spear/ but he also has an axe and you'll notice his shield is significantly smaller / alright so we would expect this character not to fight with his spear/ ok so this guy carried his spear to do what with	
44		throw it
45	throw it whereas the other guy would hold onto his spear/ ok / a different sort of soldier/ so this guy throws his spear designed to do what/	
46		to kill
47	not necessarily to kill	
48		to scare people off
49	maybe	
50		to injure them
51		start a war
52		scatter groups
53	yeah how does he do that with a spear	
54		he'd guide it into he air and like scatter them
55		****
56	***mind you killed them if he hit someone / and he would be very unhappy/ but more often than not that wouldn't happen because other people had shields as well/ those spears were designed if they didn't hit someone and kill them/ which is what they were hoping they'd do/ they stick into their shields making their shield heavier and more difficult to use in self defence/ so once they got/ if he got his spear into his shield he's got the advantage/ the guy with the big shield/ he doesn't have a manoeuvreable**/ then he come us in close quarters with a small highly mobile shield/ bashes his shield aside/ even uses the spear stuck in it for leverage/ and hacks him with his axe	
57		***
58	comes in with a short shield/ brushes the weapons aside with a spear	
59		either that or he smashes the guy up
60	and smashes the/ OK/ OK	
61		****

62		the general reaction to this
63		and if you do like/ you're so sorry
64	alright let's look at the thing we notice about all the other soldiers except one/ what is it/ all except number seven/ they don't have shields/ now we'd expect these meant to be doing one of two things/ let's identify number four and five/ what/ where would these people be in the battle	
65		at the back
66	at the back/ ok/ these guys had no self protection/ they're not even wearing any form of armour/ not that they had much armour at all/ they're in the form(??) of using a long range weapon ie a bow and arrow/ and would you believe an Egyptian form of a long range missile	
67		*students laugh*
68	designed to/ these weapons are designed where he doesn't necessarily have to come in close contact with an enemy/ ok/ so why has he got hand weapons	
69		in case
70	yeah/ in case somebody breaks through	
71		but his***
72		***
73		yeah and say a bow and arrow
74	ok now we've got a character with a staff and mace/ that's number three	
75		****
76		that'd be a throwing stick
77	in his right hand / his right hand a mace and in his left hand a longer staff and character number eight/ a throwing stick and a curved sword or scythe	
78		a mace or something
79	again he's designed to clean up after the other guys with their shields have moved through/ so he's moving in much more mobile/ comes in throws his stick at long range hoping to knock somebody off / gets in amongst the enemy and hopefully	
80		if you've got a knife you could get
81		ha ha

82	yeah/ yeah well the Romans solved the problem of getting their own spears thrown back at them by having soft steel in the**	
83		as soon as they hit they would break
84	and then they would bend, they'd actually bend/ the Romans when they threw a spear at their opponent/ it stuck into their shield / in trying to get it out you'd almost always bend the shaft / it wasn't worth it/ they were not all metal it was wood too and it hit the ground and bent also/ so they never got their spears thrown back at them whereas the Greeks did/ the Greeks threw javelins/ if a javelin missed you/ you picked it up and threw it straight back/ so everybody learnt from their experience/ OK	
85		number seven
86	so all the people in the army had different functions/ they would have been used at different times for different purposes and their weapons / the sorts of protection they have/ reflect that/ number seven is obviously a guy who is carrying a shield and some sort of axe/ again he's designed to fight at close quarters and also they used the shield/ he uses a shield that is not as long / the shield as number two or number one/ they used the shield to um** their opponents aside as well/ number one with the chariots as well	
87		what's number six
88	it's a standard bearer/ thank you gentlemen/ see you tomorrow morning	

Appendix 19: Worksheets: The Egyptian army lesson

APPENDICES

Appendix 20: Worksheet: Levelling the site for a pyramid

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