

1-1-2003

Nature of talk and interaction in the Singapore history classroom

Pamela Chellappah Thuraisingam
Edith Cowan University

Follow this and additional works at: <https://ro.ecu.edu.au/theses>



Part of the [Other Education Commons](#)

Recommended Citation

Thuraisingam, P. C. (2003). *Nature of talk and interaction in the Singapore history classroom*. Edith Cowan University. Retrieved from <https://ro.ecu.edu.au/theses/1316>

This Thesis is posted at Research Online.
<https://ro.ecu.edu.au/theses/1316>

Edith Cowan University

Copyright Warning

You may print or download ONE copy of this document for the purpose of your own research or study.

The University does not authorize you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following:

- Copyright owners are entitled to take legal action against persons who infringe their copyright.
- A reproduction of material that is protected by copyright may be a copyright infringement. Where the reproduction of such material is done without attribution of authorship, with false attribution of authorship or the authorship is treated in a derogatory manner, this may be a breach of the author's moral rights contained in Part IX of the Copyright Act 1968 (Cth).
- Courts have the power to impose a wide range of civil and criminal sanctions for infringement of copyright, infringement of moral rights and other offences under the Copyright Act 1968 (Cth). Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

**NATURE OF TALK AND INTERACTION IN THE
SINGAPORE HISTORY CLASSROOM**

Pamela Chellappah Thuraisingam

2003

Doctor of Philosophy

**NATURE OF TALK AND INTERACTION IN THE
SINGAPORE HISTORY CLASSROOM**

Pamela Chellappah Thuraisingam
BA, MEd, MA (English Language)

**A Thesis Submitted in Fulfilment of the
Requirements for the Award of
Doctor of Philosophy**

**At the Faculty of Community Service Education and Social Science,
Edith Cowan University.**

Date of submission: July 2003

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

ABSTRACT

NATURE OF TALK AND INTERACTION IN THE SINGAPORE HISTORY CLASSROOM

History is a complex subject. It is more propositional than procedural in nature (Nichol, 1984), and involves adductive thinking (Booth, 1983), where historical evidence and facts are 'teased out' and a convincing account of the past is then reconstructed through speculation, imagination and empathy (Nichol, 1984; Booth, 1983). The teaching and learning of history should not just be the transmission of knowledge, but rather it should involve a process whereby students and teachers interact in order to analyze evidence, raise questions and hypotheses, synthesize facts, communicate their ideas, understand others' viewpoints, consider values, reflect and engage in moral reasoning (Brophy, 1996). It is through this interaction that development of thinking in history will occur (Coltham, 1975).

The main focus of the research is on the language used in the history classroom, particularly during critical episodes when the teachers and students appeared to be engaged in the process of historical thinking. This research is particularly concerned with historical thought embedded in the language used in history classrooms. To investigate this, both high and low inference coding systems were adopted to code, describe and analyze the verbal behaviour that occurred.

The data were gathered in six classes from schools in Singapore. They constituted two classes of above average students (Special stream), two classes of

average students (Express stream) and two classes of below average (Normal stream) students. Audio and video recordings were made of two lessons from each of the six classes. These lessons were transcribed, coded and analyzed to ascertain which contexts were more conducive for the production of higher order thought. It was found that a complex interrelationship of factors including pedagogic activity, type of teacher talk and student talk, and even more importantly the interaction between them, determined whether or not there was historical thinking.

The findings revealed that there was historical thinking when explicit and implicit contact was established during interaction between the teacher and the students. For explicit contact to be made the teacher and the students needed to be engaged in the language game (Wittgenstein, 1972). This is where the teacher made those moves that elicited student responses that demonstrated historical thinking. For implicit contact to be made the element of voice (as in the concept of "voice" described in Bakhtin's theory on the dual-voicing and polyphony) becomes essential. During such episodes the teacher mediated between the characters in history, his or her own talk and that of the students. These responses which were often dramatised, the teacher used first and second person forms (dual voicing) to evoke empathy and imagination. In doing so they also engaged in a dialogic interaction with the characters of the past and there was back channelling. There were evidences of such dialogues in all the Special, Express and Normal stream lessons but in various contexts. These dialogues reveal that the nature of talk and interaction is distinct to the subject history.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) Incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;
- (ii) Contain any material previously published or written by another person except where due reference is made in the text; or
- (iii) Contain any defamatory material.

Signature

Date 31/7/03^v

ACKNOWLEDGEMENT

There are so many individuals who have made this research possible and all of them deserve a special mention. First of all I wish to extend my gratitude to my principal supervisor, Dr Rhonda Oliver, Director of Centre for Applied Language and Literacy research, Edith Cowan University for her continued guidance and support right through the five years of my research. I am grateful to Associate Professor, Dr Len King of Edith Cowan University for the help given to me in the initial stages of this research in 1999 and in the preparation of the research proposal, and who when he retired, placed me in the good hands of Associate Professor, Dr Richard Berlach. I also wish to extend my gratitude to Dr Judith Rochecouste for guiding me in the finer points of academic writing.

I would like to place on record my grateful thanks to academics Dr Faizal and Mrs Daphne Brosnan, to undergraduate student, Roshini Kuganesan and to the many Singapore teachers for help given in the checking of the transcription and coding of the transcripts.

Finally, I would like to thank in particular the six teachers, the students from the six classes (who all unfortunately cannot be named) and the schools for agreeing to participate in the research. I would also like to extend my gratitude to the Singapore Ministry of Education for granting me full time and part-time study leave to enable me to undertake and complete this research.

TABLE OF CONTENTS

| | |
|-----------------|-----|
| Abstract | iii |
| Declaration | v |
| Acknowledgments | vi |
| Contents | vii |
| List of Tables | xii |
| List of Figures | xii |

CHAPTER ONE: BACKGROUND TO THE STUDY

| | | |
|-----|---|----|
| 1.1 | Introduction | 1 |
| 1.2 | The Educational policy in Singapore | 2 |
| | 1.2.1 An ability driven system | 3 |
| | 1.2.2 The three initiatives in the TSLN policy | 4 |
| | 1.2.3 Innovations and rigor | 6 |
| | 1.2.4 The use of Educated Singapore English | 7 |
| 1.3 | The Singapore Education system - a hybrid system | 8 |
| 1.4 | The teaching and learning of History in the classroom | 9 |
| 1.5 | Purpose of the research study | 15 |
| 1.6 | Significance of the study | 15 |

CHAPTER TWO: LITERATURE REVIEW

| | | |
|-----|--|----|
| 2.1 | Introduction | 17 |
| 2.2 | Historical adductive thinking | 18 |
| | 2.2.1 Historical imagination | 21 |
| | 2.2.2 Historical empathy | 22 |
| | 2.2.3 Historical understanding | 23 |
| 2.3 | Historical thinking and higher order thinking | 27 |
| 2.4 | Critical incidents | 28 |
| 2.5 | Teaching history through an interpretative approach | 29 |
| 2.6 | Classroom Interaction | 34 |
| | 2.6.1 Undertaking Interactional analysis | 34 |
| | 2.6.2 Social constructivism | 38 |
| | 2.6.3 Interaction and discourse | 42 |
| | 2.6.4 Classroom talk and the learning process | 45 |
| | 2.6.5 Function and language use | 47 |
| | 2.6.6 Language demands in the subject history | 51 |
| 2.7 | Teaching pedagogy and promotion of historical thinking | 58 |
| 2.8 | Conclusion and research questions | 69 |

CHAPTER THREE: METHODOLOGY

| | | |
|-----|----------------|----|
| 3.1 | Overview | 72 |
| 3.2 | Participants | 73 |
| 3.3 | Procedure | 76 |
| | 3.3.1 Step one | 76 |
| | 3.3.2 Step two | 76 |

| | | |
|-----|-------------------------|-----|
| | 3.3.3 Step three | 77 |
| | 3.3.4 Step four | 78 |
| 3.4 | Analysis | 78 |
| | 3.4.1 Transcription | 78 |
| | 3.4.2 Coding | 79 |
| | 3.4.3 Types of Analysis | 109 |
| | 3.4.4 Reliability | 110 |

CHAPTER FOUR: NATURE OF TALK

| | | |
|-----|---|-----|
| 4.1 | Introduction | 113 |
| 4.2 | Nature of classroom talk | 114 |
| 4.3 | Teacher talk | 115 |
| | 4.3.1 Teacher providing content and information | 116 |
| | 4.3.2 Teacher providing direction or procedure | 124 |
| | 4.3.3 Asking of closed inductive questions | 130 |
| | 4.3.4 Asking of open-ended discursive questions | 136 |
| | 4.3.5 Acceptance of student ideas | 139 |
| | 4.3.6 Explicit rejection of student ideas | 141 |
| | 4.3.7 Teacher criticises students behaviour | 142 |
| 4.4 | Student talk | 143 |
| | 4.4.1 Predictable response to teacher | 145 |
| | 4.4.2 Unpredictable response to the teacher | 147 |
| | 4.4.3 Students initiate talk with teacher | 148 |
| | 4.4.4 Students respond to peer | 152 |
| | 4.4.5 Students initiate talk to peer | 156 |

| | | |
|------------------------------------|---|-----|
| 4.5 | Other types of talk | 158 |
| 4.5.1 | When teacher and students verbalised | 159 |
| 4.5.2 | When students made formal presentation | 161 |
| 4.5.3 | When students engaged in electronic talk | 162 |
| 4.5.4 | When teacher-student in talk off task | 162 |
| 4.5.5 | Code-switching | 163 |
| 4.6 | Conclusion | 165 |
| | | |
| CHAPTER FIVE: INTERACTION PATTERNS | | |
| 5.1 | Introduction | 166 |
| 5.2 | Teacher-centred patterns | 169 |
| 5.2.1 | Teacher explanation | 169 |
| 5.2.2 | Teacher's questioning | 175 |
| 5.2.3 | Qualification of questioning | 180 |
| 5.2.4 | Teacher's response to student's response | 187 |
| 5.2.5 | Teacher's explanation to questioning | 188 |
| 5.2.6 | Teacher's negative response | 191 |
| 5.3 | Student-centred patterns | 193 |
| 5.3.1 | Student's response - teacher' response | 196 |
| 5.3.2 | Students initiating talk - teacher's response | 196 |
| 5.3.3 | Student initiating talk to peer | 197 |
| 5.4 | Patterns centred around other types of talk | 200 |
| 5.5 | Summary of Findings | 206 |

| | | |
|-----------------------|--|-----|
| CHAPTER SIX: | CRITICAL EPISODES | |
| 6.1 | Introduction | 208 |
| 6.2 | Teacher-centred episodes | 209 |
| | 6.2.1 Dialogic in nature | 210 |
| | 6.2.2 Explicit engagements | 215 |
| | 6.2.3 Uptake of student's response | 223 |
| 6.3 | Student-centred episodes | 224 |
| | 6.3.1 Questioning, contradicting peer | 225 |
| 6.4 | Summary of findings | 227 |
| | | |
| CHAPTER SEVEN: | CONCLUSION | |
| 7.1 | Nature of talk in the history classroom in Singapore | 229 |
| 7.2 | The interaction patterns | 233 |
| | 7.2.1 Scaffolding and managing information | 233 |
| | 7.2.2 Dialogic interaction | 234 |
| 7.3 | Critical Episodes | 235 |
| 7.4 | Implications | 236 |
| 7.5 | Limitations | 239 |
| 7.6 | Future research | 241 |
| | | |
| REFERENCES | | 245 |
| | | |
| APPENDIX | | 260 |

List of Tables

| | | |
|----------|--|-----|
| Table 1: | Proportion of students in different streams 2000 | 4 |
| Table 2: | Participants in the study | 75 |
| Table 3: | Distribution of lessons from each stream | 77 |
| Table 4: | The percentage of three types of classroom talk in the twelve lesson | 114 |
| Table 5: | The percentage of types of teacher talk in the twelve lessons | 115 |
| Table 6: | The percentage of types of student talk in the twelve lessons | 144 |
| Table 7: | Percentage of other types of talk in the twelve lessons | 159 |
| Table 8: | Percentage of ten major patterns of interaction in the twelve classrooms | 167 |

List of Figures

| | | |
|-----------|---|----|
| Figure 1: | The complexity of the historical thinking process | 27 |
|-----------|---|----|

CHAPTER ONE

Background to the Study

1.1 Introduction

The research is based in Singapore. The Singapore educational policy has certain features which are unique to the country and its people. There are four official languages namely, English, Mandarin, Malay and Tamil. Of these four official languages, English is given more prominence as the working language and the other languages as second languages. Another unique feature concerns the educational policy such as the streaming of students and the orientation towards assessment by examinations. Thus, this research on the nature of talk in the history classroom occurs within the context of the educational policy of Singapore.

This research is an exploratory study of the nature of talk and the patterns of interaction generated in twelve history lessons in Singapore, as teachers and students engaged in the discussion of historical concepts and ideas. A special focus of the research is on the language used and interaction that occurred during 'critical episodes' in the history classroom, that is, when teachers and students appeared to be engaged in the process of historical thinking.

Historical thinking is adductive in nature and is both cognitive and affective. As such, historical thinking involves interpretation. This interpretation in the

classroom, according to the social constructivist theory, is brought about through the interaction process (Barnes, 1992; Good and Brophy 2001; Brophy 2002).

1.2 The Educational Policy in Singapore

The Educational policy in Singapore is directed towards preparing school students to meet the needs of a knowledge-based era and to function effectively in a knowledge-based economy. The study is, therefore, set in an environment where several innovative changes are currently being introduced into the education system in line with the country's "Thinking Schools Learning Nation" (TSLN) policy (Goh, 1997).

The current policy in the education system is governed by four main principles. The first principle is that students are streamed. By this, the Ministry of Education (MOE) aims to customize learning so that students can maximize their potential and harness their talents and abilities (Teo, 1998). The second principle, which is based on maintaining high standards and excellence in education, hinges on three important initiatives within the TSLN Policy. These are: a) the integration of Information Technology (IT) in lessons, b) the incorporation of thinking skills into the curriculum, and, c) the incorporation of the history of the nation, its constraints and vulnerabilities, into the curriculum. The third principle governing change in education in Singapore is that whilst, creativity, innovation and change are to be encouraged, the rigor and discipline of the education system is not to be compromised, but rather maintained. Thus, importance is given to both content knowledge and to the processes of learning. Further, although the system is fundamentally examination driven, the importance of teacher-student and peer interaction in group-work are recognized and encouraged.

The final principle governing the pedagogy concerns the teaching and use of Educated Singapore English (ESE). This is because Singapore is a global city, and as such the intelligibility of English is seen as essential. Teachers are thus required to teach and use this type of English in their classrooms. These four principles are expounded further below.

1.2.1 An ability driven system

The educational system in Singapore is an ability driven system. To maximise their potential, students in Singapore are formally streamed according to their learning ability both at the end of year four and year six of primary school. At the end of year six, students sit for the Primary School Leaving Examination (PSLE) which assesses their abilities for the purpose of placement into a secondary school course that best suits their learning pace and aptitude. Students are admitted into either the Special, Express or Normal stream in secondary schools. Pupils who are within the top 10% in the PSLE are chosen for a Special course. Pupils with the next level of ability are placed in an Express stream and the remainder go into the Normal stream. The percentages of year six students posted to the different streams in the year 2000 were as follows:

Table 1

Proportion of students in different streams in the year 2000

| | |
|----------------|-------|
| Special Stream | 9.5% |
| Express | 50.7% |
| Normal | 39.8% |
| Total | 100 % |

Only a few selected schools (under the Special assistance plan) conduct classes within the Special stream, and do so with specially trained teachers. The classes are smaller (20 –25 students) and while a few premier schools in the Special assistance plan are single sex schools all others are co-educational schools.

1.2.2 The Three Initiatives

The second principle governing change in the Singaporean Education system concerns the three initiatives in the TSLN policy introduced by the Ministry of Education. The first initiative includes the incorporation of Information Technology (IT) into the curriculum, the second, the integration of thinking skills into the curriculum and the third initiative concerns the integration of National education (citizenship education) into the curriculum.

(a) Information Technology

The first initiative of the Ministry of Education involves the integration of Information Technology (IT) into lessons. Two major IT master plans have been drawn up for Singapore schools. While master plan one (1997 – 2002) aimed at equipping schools and providing teachers with the skills and knowledge to integrate IT into the curriculum, the second master plan (2003 – 2007) adopts a systematic and holistic approach which aims to enhance the educational process so that students and teachers can use IT for interactive learning (Edumall, 2002). The approach calls for an involvement of all stakeholders in the education system to tap the potential of IT (Edumall, 2002).

(b) Integration of Thinking skills

The second initiative concerns the teaching of thinking skills in the Singapore classroom. The explicit and implicit teaching of thinking has become an important concern driving educational change in Singapore schools. Research shows that there is greater achievement when teachers and students are engaged in thinking processes in the classroom, particularly where the teacher stimulates thinking through questioning (Resnick, 1989; Nickerson, 1988; Onosko, 1990). The thinking program adopted in the Singapore schools by the Singapore Curriculum Planning and Development Division (CPDD), within MOE, is that devised by Marzano, Brandt, Hughes, Jones, Presseisen, Rankin and Suhor (1988). It is based on eight core thinking skills namely, focusing, information-gathering, remembering, organising, analysing, generating, integrating and evaluation. All of these are deemed to be necessary for investigation, problem solving, and decision-making. The eight core thinking skills are incorporated

into the Dimensions of Learning framework (Marzano, 1992). This framework is comprised of five main areas: positive attitudes and perceptions, acquiring and integrating knowledge, extending and refining knowledge, using knowledge meaningfully, and, habits of mind. Further, the thinking program is taught through the direct teaching of thinking and through the infusion of thinking skills into the core subjects such as English, Science, Mathematics, Geography and History. Such infusion in the various lessons is encouraged in the classrooms so that students are able to acquire, process and use information in complex ways as it is believed that this will promote learning in the classroom (CPDD, 1997,1998; Swartz and Parks, 1994; Marzano 1992).

(c) The Third Initiative (National Education)

The third initiative of the Ministry of Education involves the teaching of the principles of National Education. It concerns the incorporation of the history of Singapore, the values Singaporeans should possess and the vulnerability of the country. All teachers are required to consciously integrate these principles into all their lessons. This is aimed at developing in the students an understanding of national cohesion, and to promote their instinct for survival through awareness of the vulnerability of Singapore.

1.2.3 Innovations and rigor

The third principle governing change in Singapore is that creativity, innovation and change are encouraged but at the same time the rigor and discipline of the education system are maintained and students' mastery over core knowledge and

concepts are not compromised. The thinking behind this current pedagogic change in Singapore schools can be encapsulated in an important statement made by the Minister for Education in Parliament:

We must develop our young to think creatively and apply knowledge in innovative ways, while recognizing the wide range of abilities among pupils. We will revise the school curriculum to stretch but not overload our pupils. We will reduce the amount of factual knowledge they must acquire, and do more to build thinking and process skills...we need to encourage ideas and innovation on how to achieve our goals.

(1997, June 3). The Straits Times, p.1

To ensure the above, a national curriculum has been drawn up, benchmarks devised and parameters established. Even so the system remains fundamentally examination driven as the Minister for Education has stressed the need to maintain the national curriculum and existing high national standards. "We will not change precipitously, because we have a good educational system and I am in no hurry to dismantle it", (1997, June 3, The Straits Times, p.1).

One of the ways to accommodate the proposed changes has been to shift the focus to different types of interaction between teachers and students. In particular, the teacher is now being encouraged to move beyond being a mere "neutral facilitator" and to actively facilitate learning, (1997, July 31, The Straits Times, p.1).

1.2.4 Teaching and the Use of Educated Singapore English

The fourth principle concerns the teaching and the use of Educated Singapore English (ESE). One of the challenges of the Singapore Education system is to maintain a high standard of spoken English by both the teachers and the students. Over the years a local variety of English, termed 'Singlish' has emerged and this has in some ways

been glamorized by locally produced television, particularly in situational comedies. Singlish is discouraged in the classroom and students are encouraged to use ESE. Therefore, the intelligibility of English is regarded as essential and teachers are expected to maintain a high standard of language. Further it is encouraged that a focus be given not only to the appropriateness but also to the accuracy of their language. In this way, both the form and function of language are emphasised.

1.3 The Singapore education system a hybrid system

Both Asian and occidental research studies have shown that the values and ideas that shape education differ from society to society (Stevenson and Stigler, 1992; Stevenson and Lee, 1997; Soh, 1999; Hoffman, 2000; Leung, 2000). The education system in Singapore is a hybrid system brought about by Confucianism and other East Asian beliefs and practices in juxtaposition with the principles of Western education (Chang, 1995).

Many features, highlighted as East Asian practices by Leung (2000), are also reported to apply to the Singapore education situation (Toh, 1994; Chang, 1995; Leung, 2000). For example, in the East Asian tradition, the teacher is regarded with great reverence, an authoritative figure and is seen as the dispenser of knowledge to students who it is believed come to school *tabula rasa*. The teacher manages the students' learning and leads students in their activities and assignments. Most often, what the teacher says is regarded as correct and is seldom questioned by students. Other discernible features of the East Asian tradition include teaching for understanding, cultivating competent teachers, favouring knowledge-centred instructions, rather than student and teacher-centred instruction (Leung, 2000).

Whilst such beliefs and practices are still an integral part of Singapore education, the emphasis is now on both the process and the product of learning. Content knowledge is now being considered just as important as the process by which it is learnt. Thus, the Singapore education system is currently at the cross roads of change because of the many new ideas in pedagogy, new initiatives, revised syllabuses and new textbooks which have been introduced into the system to reflect this new emphasis.

Although many of the principles of western classroom practice are being adopted, there still appears to be a predominance of teacher-centred approaches with much teacher talk occurring in classrooms. Toh (1994) has observed classroom practices in Singapore and states that:

The hoped for change has not come about. Instead, what has resulted is teachers adopting bits of student-centred activities that suit them for the time, but by and large the dominant mode of instruction remain as a teacher centred one.

(Toh, 1994, p.15)

1.4 The teaching and learning of History in the classroom

The manner in which attempts to integrate East-Asian practices into the demands of the TSLN concept of change in Singapore makes the situation in which the current research is placed, unique and worthy of investigation. This is particularly true in the case of the history classroom.

Currently history is offered in Singapore schools as a single discipline and as a part of the social studies program (referred to as 'Society and Environment' in

Australia). The purpose of teaching and learning of history in Singapore schools is to help students to be first and foremost Asian in identity and yet be able to learn in western ways. Thus, the East Asian tradition of teaching values, of learning facts by repetition and remediation in preparation for examination continues to be just as important as creative thinking and learning through understanding and enrichment. This is reflected in the philosophy underpinning the revised history syllabus.¹ The syllabus includes thematic-comparative and issues-based approaches and it also incorporates the Ministry of Education initiatives as previously described.

Specifically, the revised history syllabus indicates that the purpose of history is to develop students' knowledge, values and skills. With regard to skills, students are required to have an understanding of continuity, change, causes and consequences, to understand points in history, to be able to distinguish fact and opinion in history writing, to acquire and process different types of historical evidence by interpreting, analysing and evaluating sources, and finally to develop critical and creative thinking by generating ideas, comparing and contrasting, analysing, synthesising, integrating and evaluating (Curriculum Planning and Development Division, 2000). Singapore teachers and students have new history textbooks, which contain primary and secondary sources and which are more interactive in nature. History project work involving problem-solving tasks is also being introduced. Finally, information technology is being integrated into history lessons to help foster thinking of a higher order in students. This mode of conducting history lessons offers a challenge to the history teachers in Singapore. Of particular interest in this study has been the effect of

¹ This revision was implemented in 2000 for lower secondary and in 2001 for upper secondary and pre-university levels.

these changes in the syllabuses, in the resources and in the teaching pedagogy on the nature of teacher and student interaction in the teaching and learning of history. Specifically this research addresses the questions, to what extent do the interaction in the classroom engage students in historical thinking processes and the interpretation of historical facts? The study will therefore, investigate the strategies that teachers and students are using in the large classes to interpret history rather than to transmit /receive historical facts. This involves the analysis of the nature of talk and the nature of interaction patterns and the historical thinking processes.

Anecdotal evidence suggests that teachers regard the recent changes made to the education system, and particularly in the teaching and learning of history, as a challenge and they are beginning to explore new methods for teaching the required syllabuses. Particularly challenging for the teachers is their new role as facilitators. Teaching history is no longer seen as involving just the transmission of information with the teacher the sole provider or authority in the classroom, but it now also has an interpretative function (The History Teacher, 2001). This constitutes a major shift in the way it is recommended that history be taught – a movement away from the transmission mode and towards an interpretative mode. However, the impact of these changes in the history classroom on the teaching-learning process in general and for higher-order thinking in particular, are not known and need to be investigated.

Research conducted in the last two decades suggests that teacher led discussion or the traditional expository style, is the dominant mode of teaching in the history classrooms in Singapore (Tan, 2000 and Toh, 1994). In the study of history teachers carried out by Tan (2000), eight out of eleven teachers considered teacher talk as the

main mode of instruction. This involved drawing students' attention to main points through chalk and talk and overhead transparencies. She reported that the history lessons were dominated by teacher talk and students remained passive learners. She has suggested that the teacher's expository style of teaching was the main factor in inhibiting the development of thinking in the history classroom. Tan's research was based on classroom observations, students' written work, questionnaires and interviews with teachers and students. Tan, however, did not record, code or analyse the teacher talk. However, talk and class discussions in particular were the focus of studies conducted by researchers such as Howe (1988); Newmann et al.(1990); Nuthall (2002) and Wilen (1990), who provide valuable models for the current study.

Chang and Ho (1992) appear to allude to the fact that the approach of the Singapore teacher is unique. While Leung (2000) maintains that the memorisation of historical facts and repetitive learning remain common practices, Singaporean researchers do not see the repetitive learning as rote learning as the students are believed to be learning with understanding (Chang and Ho, 1992). The concept of repetitive learning is unique to the East Asian tradition and to Singapore. The repetitive learning of facts is also based on the belief that, without facts, there is no basis for discussion.

One of the factors attributed to the unique situation in Singapore is the fact that the classes are generally large. Large classes pose a challenge to the history teachers in Singapore as special skills and strategies are required to reach out to students and to engage and draw them into the discussion and at the same time establish rapport with them. In a study conducted by Stevenson and Stigler (1992) they found that many of

the views held of the Asian teaching practices in the classroom were stereotyped as being one where learning was by rote. In reality however, the Asian teacher was found to be remarkable and conducted excellent lessons in the classroom. According to their view, the Asian teacher assumed the role of a “knowledgeable guide” rather than that of a “prime dispenser of information” (Stevenson and Stigler, 1992, p.176). Their study revealed that the teachers in the Asian tradition, unlike the American teachers, were more engaged in actively teaching and instructing the students and they spent less time in transition. They reported about the classes in Japan and China as consisting of,

... coherent lessons that are presented in a thoughtful, relaxed and non-authoritative manner. Teachers frequently involve students as sources of information ... lessons are oriented toward problem-solving rather than rote mastery of facts and procedures... lessons are not rote, they are not filled with drill... Teachers do not spend large amount of time lecturing to children and the children are not passive automation but active participants in the learning process.

(Stevenson and Stigler, 1992, p. 176).

Stevenson and Stigler found that the lessons conducted by the Japanese and Chinese teachers were carefully designed with a theme and they were “like a good story” (p.176) told to the students with an introduction and a conclusion. Stevenson and Stigler report that there were also verbal interaction in the classroom and teachers made attempts to stimulate students to think. Although the classes were large Stevenson and Stigler maintained that Asian teachers were able to handle the large classes as the teachers and students were both jointly involved in the teaching-learning process and in maintaining discipline in the classroom. One outstanding difference they found between the American and the Asian teacher was that the Asian teacher is a “skilled performer” while the American counterpart was innovative, inventive and

original. The researchers conclude, “ these two models, the skilled performer and the innovator have very different values in the East and West” (p.168). Hoffman (2000) has also maintained this theory of the Asian teacher as a skilled performer. According to Hoffman, Japanese teachers use strategies, enthusiasm and vigour to involve students in the lesson as skilled performers. These teachers use students’ ideas as a springboard for further discussion and encourage peers to challenge and comment on each other’s answers

Currently, there is very little evidence as to what extent the concept of the ‘Asian Teacher’, as expostulated by Hoffman (2000); Leung (2000) and Stevenson and Stigler (1992), pertains to the Singapore history teacher and to what extent the Singapore situation is a unique one. There are few reports on the verbal interaction in the teaching and learning in the Singapore classroom especially in the Singapore history classroom. Very few local researchers, with the exception of Khoo (1988) and Lim (1980, 1985) have addressed the role of the actual discourse of the classroom in order to understand the processes of learning although some preliminary research work on teachers’ language use and the exploratory talk of students in the history classroom was conducted by Thuraisingam (1982, 1990, 1997). Therefore there is a need to examine the current nature of talk in the history classroom in order to ascertain and understand the processes of thinking that are taking place, particularly in light of the Ministry’s efforts to change pedagogical practice. A closer examination of the nature of teacher talk, student talk and interaction in the history classroom may shed more light on the processes of learning and the historical thinking that take place in the history classrooms. This in turn can provide a better understanding of the effects and

success of the changes in education policy in Singapore. These issues are addressed in the current study.

1.5 Purpose of the research study

History is a propositional subject (Nichol, 1984) where talk and discussion are essential to teasing out historical facts and ideas. History involves second order concepts like cause and effect, reconstruction, imagination, empathy, analysis of evidence, change and continuity – all constructs that require inductive, deductive and adductive operants. Therefore, history students are required to perform at a high level of cognitive behaviour (at the level of formal operations, using Piaget's term). This behaviour is evident in the use of "propositional" talk (Coltham, 1975, p.30 and Shemilt, 1983, p.13). Currently, little is known of the cognitive language demands of the subject history particularly in the Singaporean context. The present study, therefore, analyses the talk that is generated in the history classroom based on the assumption that the thinking processes required in learning history are reflected in the talk generated between teachers and their students, and between students and their peers.

1.6 Significance of the study

There is a need for studies which analyse how specific types of classroom interaction may promote thought in history classes. There is also a need to develop a better understanding of the demands of the subject history and the contextual conditions that enable or constrain and shape the nature of the talk. This need is augmented by a paucity of research on classroom talk (Wilén and White, 1991) and on

talk in the history classroom in particular (Downey and Levstik, 1991). This study is significant in that it will further inform the policy developers on the effectiveness of current educational changes in Singapore. The information gathered will contribute to current pedagogical knowledge and curriculum construction and ultimately be beneficial for practising teachers.

CHAPTER TWO

Literature review

2.1 Introduction

There are three parts to this chapter. The first part explores literature on the complex nature of historical adductive thinking, and the interplay of affective and cognitive forces in the classroom. The second part examines the need to teach history as interpretation which involves historical thinking. The third part of the chapter presents literature addressing the nature of the interaction between teacher and students and between students in the history classroom, and how this may foster historical thinking. It examines theories on learning through interaction (Wells, 1981) and the recent literature on the social constructivist teaching theory as put forth by Brophy (2002); Wells (2002) and Nuthall (2002). The nature of classroom talk is surveyed and examined with special focus on the element of "voice", as expounded by theorists after Bakhtin, such as Wertsch (1991, p.67; p.93) and Knoelner (1998, p.1). In particular, the element of voice is examined in relation to the "critical" incidents (Tripp, 1993, p.8) that occur in the history classroom. As explained by Tripp,

...appear to be 'typical' rather than 'critical' at first sight, but are rendered critical through analysis...an incident which passed entirely unnoticed when it occurred, but which was

made into a critical incident by what was seen in and written about it.

(p.25)

Such incidents in the history classroom are identified and studied in the context of discourse of the classroom. As we are dealing with discourse such critical incidents are described in the present research as 'critical episodes'. Also covered in this literature review are studies on interaction analysis and methods of analysis of discourse in the classroom. The final part of the chapter examines research about pedagogy and methodology in relation to the teaching and learning of History.

2.2 Historical adductive thinking

The thinking process in history is "adductive" (Booth,1983,p.109) in nature and unique to the subject (Booth,1984; Hirst, 1974). Adductive thinking involves imagination, attitudes and understanding when used by students to recreate the past. Adductive thinking has been studied by researchers. One of the first studies to explore the nature of thinking in the subject history by adolescents was that by Hallam (1970). His study showed that the stage of formal operations in the subject history begins at the age of approximately sixteen years. Further, he indicated it is harder for students below this age to think about history hypothetically and deductively than it is in other discipline areas. He also considered whether different types of intelligence are needed for reasoning in history (Hallam, 1970). However, history researchers such as Booth (1978); Shemilt (1980); Dickinson, Lee and Rogers (1986) and Ashby and Lee (1987), instead of basing their research on the hypothetico-deductive thinking and Piagetian maturation theory, have looked

elsewhere to understand the thinking processes actually involved in learning the subject history. They found that evidence in history is debatable with different interpretations. In the history classroom, students are required to use and analyse evidence, ask historical questions, communicate and understand others' viewpoints and reference. They are required to go beyond concrete facts and evidence and to utilize the innate knowledge and experiences, which they bring into the classroom. Further, Cooper (1992) and Knight (1996) explain that skills of finding, analysing, synthesising, interpreting and applying information are activated in historical thinking. Booth (1983) summarises the demands made on a student of history as,

His [the history student's] task is to put forward the most convincing account of the past; and the sort of thinking that can produce this is best described as a form of speculation, directed imagination, or vicarious living. Thus the historian has much of the creative artist in him. He aims to recreate in words the most credible account of the world we have lost. Fisher describes such thinking as 'adductive'.

(p.106)

In order to support the above theory a longitudinal study was carried out by Booth (1983) to investigate the development of historical thinking in adolescents. The study was also meant to examine how Piaget's theory could be applied to the teaching and learning of history, and the inter-relationship of this with the complexity of the subject. The study was finally meant to reveal a better understanding of why philosophers of history, such as Collingwood (1946), seem to regard history as having a distinct mode of thinking unique to the subject. It was believed that such an understanding had to be determined before the appropriate

pedagogy could be developed. Booth's study was of seventeen months duration. It concerned fifty-three boys and girls aged fourteen to sixteen years who were taught history with emphasis on discussion, project work, student activity and investigating a variety of evidence from such things as films and other primary evidences. Booth found that the students had the capacity to think adductively, that is, that they could use speculation and imagination to draw together related events in order to develop some common historical understanding. Using this they could then create a credible account of the past based on this evidence. In fact, he claims that not only can fourteen to sixteen year old pupils think adductively, but that "learning history can make a significant contribution to their cognitive and affective life" (Booth, 1983, p.114). His research revealed that more active methods of teaching were popular with the students. Based on his research Booth calls for more discursive, open-ended discussion in class and an oral teaching technique that allows students to "construct the factual knowledge they had acquired into meaningful patterns" (Booth, 1983, p.114). Finally, Booth concluded that:

Thus to attempt to assess adductive historical thought in terms of global universal stages would appear to be inappropriate. The inappropriateness is even greater when these stages themselves are described in terms of logical structures and hypothetico-deductive thinking: for such thinking has only limited connection with the imaginative, empathetic response which is the hallmark of historical understanding and the purpose of historical study.

(p.114)

A similar interest in the advantages of adductive thinking as opposed to hypothetico-deductive thinking for history teaching has led to studies by Coltham

and Fines (1971). These studies were conducted in British schools. Coltham and Fines (1971) came to the conclusion that history need not be taught in the form of rote learning. They believed that the historical thinking in the students could be developed and accelerated with appropriate pedagogy. They suggested and researched on how the Brunerian (1971) and Bloomian (1971) approaches could be brought together in the teaching and learning of history. In addition to their interest in the development of the thinking processes, these researchers also focussed on other factors such as the ways by which the “attitudes and feelings of pupils related to their cognitive skills and to what extent can teaching modify these attitudes”. (Booth, 1983, p.102).

These studies lend support to the argument that investigations on historical thinking based on a narrow view of Piaget’s framework may not be appropriate, and, that students can engage in historical thinking when the pedagogy engages them through the use of imagination and empathy and that these, in turn, lead to the development of a historical understanding.

2.2.1 Historical Imagination

Imagination in history, unlike imagination in art and literature, is related to historical evidence and historical facts. When confronted with the evidence (which can be from a secondary source such as facts from a history textbook), the student of history may use his or her imagination in attempting to understand the evidence. To engage in such a process, the teacher and students have to “stretch a web of imaginative construction” (Booth, 1978, p.3) around the historical evidence that they have before them. Teaching strategies for achieving this include the use of open-

ended questions and the asking of new questions to assist students in their imaginative construction of the past. An example of such a process may be when the class is engaged in "let's suppose, ..." type discussions (Booth, 1978, p. 3).

2.2.2 Historical Empathy

In history, empathy appears to be both cognitive and affective in nature (Brophy, 1996; Booth, 1983; Collingwood, 1946; Cooper, 1992). Empathy is defined as a process whereby a student of history, based on the historical evidence before him, comes to an understanding about the values and belief systems of the particular groups of people under investigation. Historical empathy involves considering the thoughts, beliefs and feelings of people of the past (Cooper, 1992). Some history theorists have argued that empathy is affective (Coltham and Fines, 1971) while others suggest that empathy is cognitive as it involves the student's ability to form hypotheses and is seen as involving the head more than the heart (Shemilt, 1984). The task of the teacher of history is to try to engage students in such empathetic understanding in the classroom. The teacher may be able to facilitate, for example, the interpretation of historical facts and events by questioning and using student responses and by exposing them to empathetic dilemmas (Shemilt, 1984) such as, 'how do you think the King felt at that period of time?'

The importance of empathy in the historical thinking process can be better understood if examined in the light of Collingwood's philosophy (Mac Issac, 1996). Collingwood suggests that an event in history has both an 'inside' and an 'outside' quality to it. To truly understand the events from the 'outside,' the historian has to

interpret the historical event by looking at the 'inside' or in other words, by looking at the thought processes involved in the event. This is done by trying to understand the characters' feelings as well as engaging with their belief systems. Mac Isaac (1996) argues that Collingwood's theory has implications for the teaching and learning of history and suggests that, in order to facilitate thinking in students, teachers and students have to enter the world of the historical characters. That is, they need to be sensitised to the voices of the past.

Bakhtin's concept of voice is explained as the interaction between the "inner thinking self" and the "outer speaking self" (Morris, 1994, p.83). Knoeller (1998) has also developed and used Bakhtin's notion of voice and the influence of other voices on the learner. This has implications for the study of history as the concept of "multivoicedness" and "heterogeneity of voices" (Wertsch, 1991, p.67; p.93) helps history teachers and students to mediate between the past and the present and to hear the voices of historical characters. When this occurs, students can fully empathise with an event, character or situation in history and this is thinking historically. This concept of voice is discussed in detail later in the third part of the chapter.

2.2.3 Historical understanding

Historical understanding requires students to engage in historical thinking (The History Teacher, 1995; Holt, 1990; Newmann, 1991; Warren, Rosebury and Anne 1989). Students in the history classroom are required to not just simply describe historical events, but to raise questions, gather and evaluate the facts and question views expressed by authors. To enable students to do this they need an

understanding of the structural, organisational and subject specific concepts in history.

Concepts in history are “abstractions that give order to factual knowledge (e.g. manifest destiny, emancipation, revolution, progressive era, yeoman, serf, absolutism, and ancient civilisation)” (Thornton, 2001 p.294). The historical concepts are different from the concepts of the Sciences according to Dickinson and Lee (1978):

‘Historical concepts’ are in general everyday practical concepts in which the only specifically historical content is provided by particular instances. (p.98)

In other words, the student of history has to construct for himself the historical concepts from the historical content before him, as Van Sledright and James (2002) suggest:

Developing historical thinking and understanding requires opportunities for learners to work with various forms of evidence, deal with issues of interpretation, address questions about the relative significance of events and the nature of historical agency, and cultivate and use thoughtful, context-sensitive imagination to fill in gaps in evidence trails when they arise. (p.268)

Lee (1983) explains that in the learning of the subject history, students need to understand second-order concepts (such as ‘change’, ‘cause’ etc.) as distinct from first-order concepts pertaining to the subject history (such as ‘liberal’, ‘capital’ etc). As these are cognitive constructs, Hayden, Arthur and Hunt, (1997) suggest that they cannot be taught by direct teaching but have to be developed and understood

through a process of enquiry (Nichol, 1984) and this, in turn, will aid the understanding process. Thornton (2001, p.296) makes reference to "concept teaching" in which the teaching is concentrated on selected number of concepts instead of a content coverage approach. In concept teaching students are encouraged to think, imagine and empathise.

Historical understanding, therefore, may be facilitated by the use of open-ended discussions (Booth, 1978) where the teacher and students are engaged in disciplined enquiry and ask more 'how' and 'why' questions of historical evidence (Newmann, Onosko and Stevenson, 1990). Thus the teaching of the subject history does not consist of the transmission of facts alone, but of learning through discussions, reciprocal questioning, raising of hypotheses, and reflection. In other words, it is best taught through interpretation. These conclusions are supported in the study by Levstik and Pappas (1987). They found that young students' understanding of history depended on the classroom context and the form of discourse in history that occurred in it. Thus, it appears that there is a connection between how history is presented to the students and their understanding of it (Levstik and Pappas, 1987).

History is a complex subject. Part of this complexity comes from the fact that "...historical knowledge and the process of historical enquiry cannot be divorced" (Lee, 1983, p.29). In other words skills and methods cannot be divorced from content. Fitzgerald (1982) attempts to explain the complexity of the subject history as follows:

The nature and structure of history is such that it embraces not only methodology, inquiry, and concepts but also message and

experience...these experiences speak a personal message to each student.

(p.99)

As such, it may be more productive to describe historical thinking in terms of imagination and empathy, that is adductive thinking, rather than as logical structures and hypothetico-deductive processes. The complex thinking that goes with historical thinking may be further explained by examining the complex ways historical empathy, historical imagination and historical understanding are related to one another. This is represented diagrammatically in Figure 1 overleaf:

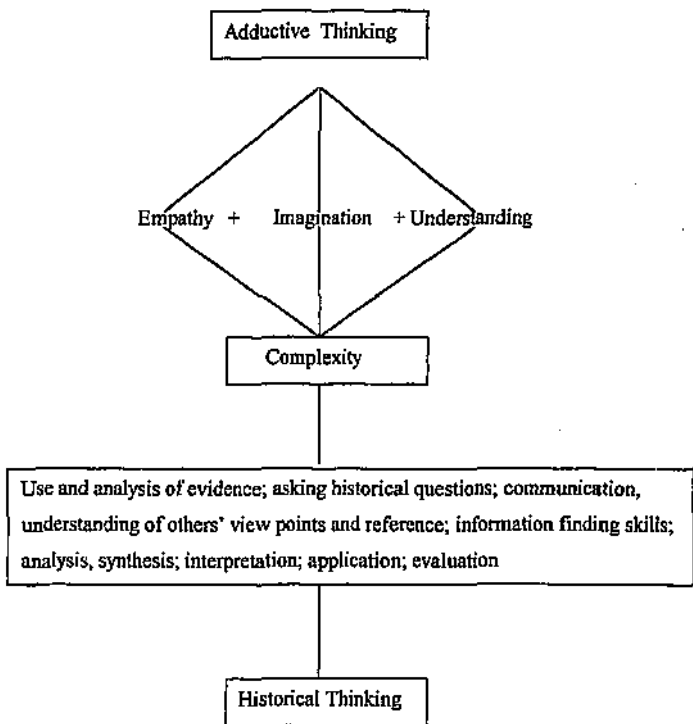


Figure 1 The complexity of the historical thinking process

2.3 Historical thinking and higher order thinking

As seen in the Figure 1 above, historical thinking can be described in terms of imagination and empathy rather than as logical structures and hypothetico-

deductive processes. Further, it is in this form of complexity that higher order thinking occurs (Resnick, 1987). Resnick describes the characteristics of higher order thinking as being “non algorithmic, nuanced judgments and interpretation, multiple criteria, uncertainty, imposing meaning” (p.3). This is also supported by Sternberg and Sperling (1996) in their triadic theory of intelligence. They describe this as involving analytic thinking, practical thinking and creative thinking. The latter they say involves “creating, discovering, producing, imagining and supposing” (p.ix). Further, they suggest it is an important aspect of thinking and one which is often neglected in school. Therefore, historical or adductive thinking, which contains many of these characteristics described by Resnick (1987) and Sternberg and Sperling (1996), can be deemed to be of a higher order in nature.

2.4 Critical incidents

When the teacher and students are engaged in historical thinking there is interplay of cognitive and the affective factors. When this occurs it constitutes a critical episode. A critical episode in a discourse is an incident of complex thought involving empathy, imagination and understanding and can be rendered critical through analysis and interpretation of the ‘what’ and the ‘why’ of the incident. This incident is broken up into simpler parts and examined in a wider context.

According to Tripp (1993):

...critical incidents are produced by the way we look at a situation: a critical incident is an interpretation of the significance of an event. To take something as a critical incident is a value judgement we make, and the basis of that judgement is the significance we attach to the meaning of the incident.

(p.26)

According to Flanagan (1954) a critical incident need not be a common occurrence but it does happen at least now and then. Such critical incidents, described in the present research as critical episodes, form a special focus in the study. During these critical episodes in the history classroom the teacher and the students show evidence of reconstructing history through empathy and historical imagination – that is, they appear to engage in adductive (higher order) thinking.

2.5 Teaching history through an interpretative approach

Educationists such as Brophy (1990), Barnes (1976), Barnes and Todd (1995), Taba, Durkin, Fraenkel and McNaughton, (1971) and Cooper (1996), agree that the teaching and learning of history is more than just the transmission of facts, and the teacher more than just a dispenser of knowledge. Historical thinking in the classroom is brought about through the teacher acting in the role of a facilitator and adopting an interpretative pedagogy (Behan and McCullagh, 1998). Thornton (2001, p.296) calls such an approach “conceptual teaching”. He states that such a form of teaching involves thinking and active student inquiry. Further, it engages the students in value education (Thornton, 2001). Philosophers of History, such as Hirst (1974), Shemilt (1983) and Booth (1983), call for such an approach in the teaching of history, arguing that historical evidence is open to different interpretations and no

one interpretation is superior. Students have to empathise with people and events in history and be able to consider other perspectives and interpretations as part of the historical thinking process. As historical empathy and historical imagination are required in the understanding of history, history is therefore taught by adopting an interpretative approach (Cooper, 1992).

If the organisation and interpretation of historical facts involve empathy, imagination and historical understanding then from a Neo-Vygotskian perspective, the teacher's task is to facilitate this process, particularly with less able children. Students have to deal with numerous amounts of historical facts and information but may have to do so with a restricted vocabulary (Barker, 1978). Therefore, the interpretation and reflection of historical facts is likely to be facilitated by the use of clear language and appropriate discourse as noted by Steele (1976):

... it is quite evident that the different levels of thought do need specialised attention and one area to which the teacher must pay particular regard is the use of language in developing historical thinking.

(p.16)

(For further discussion about the importance of language in the teaching and learning of history see 2.7.6).

Barnes (1976) makes a distinction between two kinds of teachers, the transmission teacher and the interpretative teacher. Barnes (1976), and Barnes and Todd (1995) explain why teachers in the classroom should be encouraged to use the interpretative approach rather than a transmission approach although they caution that such a polarisation might not be fair. Nevertheless, they claim that teachers and in particular history teachers fall along such a continuum. They explain that

teachers who regard language as a vehicle for learning and transmission also regard students as empty vessels waiting to be filled with knowledge. Such teachers they class as transmission teachers. The teacher who attaches importance to language as a means of interpretation and as a way of making meaning would be regarded as an interpretative teacher. Such teachers would adopt a more dialogic relationship and encourage interaction. This concept of a continuum reigning between a transmission approach and an interpretative approach has also been developed by Brophy and others within the school of social constructivism (Brophy, 2002).

Adopting such an interpretive approach as suggested by the social constructivists, has presented both problems and challenges for the teacher (Haydn, Arthur and Hunt, 1997). For an interpretative approach teachers need to interact with students, to ask more open-ended questions and to employ strategies such as using students' answers as springboards for further questioning. This technique utilizes "uptake" (Collins, 1982, p. 430). It involves taking the students up the spiral of understanding through teacher scaffolding (Vygotsky, 1986). Thus the teacher would require a wide repertoire of skills to engage students in the interaction process. One such interaction skill is the ability to reformulate. This, in turn, is a form of scaffolding (Cazden, 1988). Cazden explains that through reformulation the teacher tries to foster understanding relevant to the student's own experience.

There is literature to show the importance of interaction in the thinking process in the research of social constructivists (Brophy, 2002). Recent published work on the theory of learning (Good and Brophy, 2000, 2001) and in particular, constructivist-learning theories (Brophy, 2002; Nuthall, 2002; Wells 2002) centre on

the promotion of historical thinking and interpretation in the classroom through interaction between teacher and students. According to these theories learning and teaching is regarded as “an enterprise of inquiry that is dialogically co-constructed by teacher and students together” (Wells, 2002, p.5). It also incorporates the Vygotskyan concept of scaffolding where the teacher and peers “both model the knowledgeable skills involved in activity and guide the learner toward independent mastery” (Wells, 2002, p.3). Similarly, in his discussion of the social constructivist theory, Nuthall (2002) shows how the teacher facilitates whole class discussion.

The relationship between interaction and thinking is also illustrated by the research of Newmann, Onosko and Stevenson (1990). They identified several key indicators of the thinking involved in Social Studies, brought about in turn by the interpretation of facts. Their study was based on high school students in the social studies classroom in United States. Onosko (1990) reported that earlier research in the US showed lecture and recitation as predominating in classroom lessons with students receiving information passively and responding to worksheets. The research carried out by Newmann et al., was the result of a concern for the need to teach higher order thinking in these schools. Their study analysed the practices of two groups of teachers, one group that was committed to the teaching of higher-order thinking and the other which was less committed. They observed the social studies classes and made a comparison using a rating scale. The difference appeared to be more apparent in five dimensions, namely:

...teacher's careful consideration of student reasons (9.50), teacher's Socratic questioning (7), student contributing original ideas (13), students being articulate and germane (14), and students being involved in the lesson (17). For each of these dimensions the mean difference between the groups exceeded one point on the five-point scale, and the effect size for each also exceeded one standard deviation.

(Newmann et al., 1990, p.266)

The teachers who adopted a Socratic questioning technique asked one question followed by another to exemplify the point. They also pressed students to explain their ideas in order to interpret the facts by the technique of uptake. It was found that the explanation and discussion of such ideas encouraged students to engage in historical thinking.

In other studies, it was shown that when the teacher merely accepted the answers of students without challenging them, historical thinking was stifled (Klinzing and Klinzing-Eurich, 1988; Wood and Wood 1988; Wilen and White, 1991). Scholars, therefore, suggest that teachers use a wider repertoire of questioning skills and uptake to encourage student participation in the interpretation of history.

In summary, historical thinking is brought about by the process of interpretation, and interpretation is, in turn, brought about through collaborative social interaction in the classroom.

2.6 Classroom Interaction

2.6.1 Undertaking Interactional Analysis

Classroom interactional studies provide amongst other things an understanding of the thinking processes in the classroom. Researchers have undertaken numerous examinations of the interaction and thought processes in the classroom adopting various approaches. A number of such studies relevant to the present research are discussed below. In particular the ideas of Barnes and Todd (1995) relating to the cognitive and affective forces leading to empathy is outlined. This concept is also explained further in the section on critical episodes.

Researchers such as Schulman (1981); Stubbs (1983) and Saville-Troike (1982) have suggested that in classroom studies, an integrated approach combining both quantitative and qualitative procedures will be most appropriate as a way to research education, especially when it involves conversational analysis. Saville-Troike (1982) believes that quantitative methods will provide normative data for the variable features of language being explored in the study. Quantitative procedures also help to determine the reliability of qualitative observation and can, through triangulation, provide for generalizations. Stubbs (1983) suggests a combination of methods in the approach to the collection of conversational data. His recommendation is that an analysis of transcripts be supplemented by ethnographic observation. Stubbs (1983) and Malcolm (1986) discuss the difficulties involved in

the transcription process but they say that transcripts are indispensable for retrospective conversational analysis. Evertson and Green (1986) have also recommended a range of different types of instruments and techniques that can be used in classroom research, one of which is observation. They indicate that "observation, as an approach to study educational processes and issues, has a rich and varied history". (p.162).

The nature of talk in the history classroom brings together research from sociolinguists, cognitive psychologists, philosophers and historians. This is because classroom talk is highly complex and dynamic. Studies on interaction in classrooms span a period that stretches from the Flanders' (1970) interaction category system to that of Brophy's (2002) exposition of the social constructivist theory. The development of interactional studies can be traced from the behaviorist approach of analyzing classroom talk (Flanders, 1970) to an understanding of the discourse formation in texts brought about by collaborative interaction as a community of learners (Brophy, 2002).

Research by Flanders (1970); Bellack, Hyman, Smith and Kliebard (1966); Dunkin and Biddle (1974) and recent studies by Brophy and Good (2000); King, Barry, Maloney and Taylor (1993,1996) and Brophy (2002) have examined the effects of instructional behaviour in the classroom, particularly where the student behaviours were viewed as outcomes of instruction. This type of interactional analysis has developed to such an extent that today its status is the same as that of discourse analysis. It has meant that student-talk is now regarded as an independent

variable in the same way as teacher-talk is, and has been for some considerable time (Delamont, 1984).

Classroom interaction studies first began as an observation tool for teacher training, as depicted in the research of Flanders (1960, 1970). The major concern of Flanders was with the affective domains and so his interest lay in the analysis of teacher initiation and response in the classroom. Seven out of his ten categories were devoted to teacher-talk, two to pupil talk and one to silence. Some of the criticisms levelled at the Flanders interaction category system were that it was teacher centred and did not provide sufficient in-depth description of the negotiation and talk of the students. Other shortcomings of the Flanders system were that it was found to be more appropriate for content orientated classrooms, rather than as a tool for observing language used by teachers and students. Other category systems that emerged at a similar time had more developed categories, such as the ones developed by Amidon, Hunter and Hough. These were verbal interaction category systems (Amidon and Hunter, 1966; Amidon and Hough, 1967; Amidon and Flanders, 1971). Even so these also had shortcomings. Like Flander's system they did not truly reflect actual classroom processes, nor were the studies based on actual classroom transcripts. Thus these earlier approaches treated the classroom as a "black box" (Dunkin and Biddle, 1974, p.13).

A recent category system devised by Brophy and Good (2000) presents a more comprehensive system that enables the examination of both teacher and student-talk and explains the dyadic interaction patterns in the classroom. Similarly studies by King et al. (1993, 1996) were concerned with the examination of the

functions of the learning interaction patterns of the whole class and small groups within the context of the promotion of higher cognitive level talk during cooperative learning.

The stand taken by many later researchers (e.g., Delamont, 1984; Shulman, 1987; Edwards and Westgate, 1987; Nunan, 1993) on classroom interaction studies was that such studies should adopt more eclectic hybrid approaches combining low and high inference systems that enable normative data from category systems to be studied with ethnographic systems in the recording and analysis of talk in the classroom, and in the recording of meaning from the context.

With the development of new classroom interactional approaches, the focus on how teachers and pedagogy directly influence learning has developed and in more recent times research has investigated how teachers and students interact to construct meanings and knowledge in classrooms. Other studies have also examined how power relations are constructed in the classroom. The focus of interest including aspects of both the macro and micro processes of learning are referred to by Nuthall (2002) as two dimensions of talk. One example of such is the development of research on classroom talk conducted by Van Lier (1996, 1997) who has used what he calls an ecological approach to classroom observation that embraces the context of classroom learning and the development of the mind. Similarly, Barnes and Todd (1995) describe the dynamics of the interaction process in the classroom where there is an interplay of communicative and cognitive functions of talk. In their recent work "Communication revisited", the categories of student-talk not only include how students initiate, elicit and respond to the teacher

and peers but also categories representing cognitive and reflective functions of language such as how students qualify and extend statements made to their peers. Likewise, Biddle, Good and Goodson (1997 p.672) agree that for a true understanding of the teaching-learning process it is necessary to have an “understanding of student thinking and student mediation of classroom events” which occurs through classroom interaction. According to these researchers, to understand the teaching-learning process it is necessary to include a description of both the observable and overt behaviour, as well as the covert features that appear in the teacher-student talk, and, to consider the cognitive and reflective function of talk. The role of language and discourse has become important in classroom research (Lemke, 1995; Gee, 1989; Nuthall, 2002). Nuthall (2002, p.53) describes this type of discourse as being more than talk, stating that “It also refers to the activities, ways of thinking and relating to others that go with the talk within a specific community”.

2.6.2 Social constructivism and interactional analysis

To undertake research into discursive formations of the classroom there is a need to look beyond, between and beneath classroom talk. Therefore, there is a need for a more fine-grained analysis than that offered by a macro system of analysis. There is also a need to consider how language is used in particular ways (Kumaravadivelu, 1999). This concept of discourse is attributed to Foucault (1969) and the post structuralists. Kumaravadivelu (1999) describes this:

Discourse thus designates the entire conceptual territory on which knowledge is produced and reproduced. It includes not only what is actually thought and articulated but also determines what can be said or heard and what silenced, what is acceptable and what is tabooed. Discourse in this sense is a whole field or domain within which language is used in particular ways.

(p.460)

The social constructivist theorist Brophy (2002) also considers the importance of social interaction and dialogue in both whole class discussions and group discussions in the learning process. There are four central characteristics in his theory:

(1) Learners construct their own learning; (2) new learning depends on students' existing understandings; (3) social interaction/dialogue plays a critical role; and (4) authentic learning tasks are needed to ensure meaningful learning. Other commonly emphasised concepts include situated cognition, scaffolding, cognitive apprenticeship, cooperative learning, learning communities, generative learning, and teaching in the zone of proximal development.

(Brophy, 2002, p.xi)

A similar idea is also expressed by Nuthall (2002) in his definition of the constructivist model. He explains that,

...perhaps the best way of defining the social constructivist model of teaching is to say that it represents a set of pedagogical intentions that can be realised in a variety of forms. These intentions focus on the need to bring about intellectually significant changes in the minds of students through social processes. They are concerned with producing students who are skilled participants in the processes of creating and evaluating new knowledge, using evidence and reasoning in ways that characterise the academic disciplines.

(Nuthall, 2002, p. 43)

The constructivists believe that teachers' approaches fall on a continuum stretching from a transmission approach to the more recently articulated social constructivist or interpretative approach. A similar view was expressed earlier by Barnes, Britton and Torbe (1986) and Barnes (1992). They describe teachers' approaches as falling into a transmission-interpretation dimension and pupil talk in the classroom belonging to a presentation-exploratory talk dimension. Barnes saw the transmission teacher as one who believes in presenting content knowledge to ensure that students achieve mastery of content, keeps students task oriented, and, has an authoritative control of the class. On the other hand, the teachers who adopted the interpretation approach believed in drawing students into the learning process.

Good and Brophy (2000) and Brophy (2002) have also investigated the continuum of the "traditional transmission approach and the more recently articulated social constructivist approach." (Brophy, 2002, p.x). They explain that with the transmission view, knowledge is seen as a fixed body of information transmitted from teacher to student; with the texts and teacher being the authoritative source of expert knowledge. The teacher provides information and leads students through activities and assignments, explains and checks for understanding, and judges the correctness of students' responses. Students then memorise or replicate what has been explained or modelled. With this approach, the discourse emphasis is on drills and recitation in response to convergent questions and the focus is on eliciting the correct answers. Activities emphasise the replication of models or

applications that require following step-by-step algorithms where students work on their own.

In the social constructivist view, knowledge is viewed as developing interpretations co-constructed interpretations through discussions. The authority for this constructed knowledge resides in the arguments and evidence cited in its support by students, as well as by texts or by the teacher, that is, everyone has expertise to contribute. With this model, teachers and students share the responsibility for initiating and guiding learning efforts. The teacher acts as a discussion leader who poses questions, seeks clarifications, promotes dialogue, and helps groups to recognise areas of consensus and of continuing disagreement. Students in turn strive to make sense of the new input by relating it to their prior knowledge and by collaborating with others to co-construct shared understandings. In this case, the discourse contains reflective discussion of networks of connected knowledge. Questions are more divergent and focus on making students think. Similarly, activities involve authentic issues and focus on problems that require complex thinking. Students with this approach collaborate as a learning community that construct shared understandings through sustained dialogue.

Brophy (2002) however, cautions teachers about this transmission-social constructivist approach, recommending an “eclectic mixture of components” that is suited to the students and the instructional goals.” (p.xi). This is evident in Alleman and Brophy’s (2001) research findings, as reported in Brophy (2002), where it is suggested that:

Transmission techniques are best used for efficiently communicating canonical knowledge (initial instruction establishing a knowledge base) and social constructivist techniques are best used for constructing knowledge networks and developing processes and skills (synthesis and application).

(p.xi)

Therefore, they also caution that there are constraints in both approaches and that neither approach should be over used.

The transmission-constructivist dimension has implications for the present research as the interest is on the nature of talk and the dynamics of interaction that emerge when students are engaged in historical thinking and learning in the history classroom.

2.6.3 Interaction and discourse in the history classroom

Booth (1983) believes that discursive, open-ended discussions allow students to have a better understanding of history, for as students and teachers negotiate, discuss, question and hypothesise, students begin to understand past events and issues. That is to say, teachers and students are using language to re-create and interpret history. It is on this basis that Pendry, Anna, Husbands, Chris, Arthur, James and Davison (1998, p.14) claim that there is a “need to ground professional development in the realities of classroom interaction”.

The importance of language and the need for discussion about the re-creation and the interpretation of truth in history has been the subject of debate between modernists and the post modernists (Hirst, 1974). The theories of deconstructivists such as Derrida and Foucault (cited in Munslow, 1997) have drawn attention to the

way that language is used to represent historical content. In addition Foucault suggests that, instead of referring to historical texts by great writers, an archaeological approach should be used using archives and the texts of minor officials. The archeological method attempts to avoid traditional explanatory concepts because the grand narratives of re-knowned writers emphasise such things as the causes and effects of events, continuity and chronological time. In other words, history is interpreted and reconstructed in the way man understands the situation. If historical data and evidence is interpreted then to what extent can we say that the account is an objective one? The Foucaultian conception of history is a challenge for many history teachers who would have themselves been schooled in the 'grand narrative' manner of dealing with the past.

In this respect, discourse becomes crucial. The post modernists have provided an insight into the importance of the discourse of history and historical consciousness (Jenkins, 1998). They are, therefore, more conscious of the way that language is used to represent historical content as well as how it is used to make sense of the past with our present knowledge. This is explained by Jenkins (1992) as follows:

The historian's viewpoint and predilections still shape the choice of historical materials, and our own personal constructs determine what we make of them. The past that we 'know' is always contingent upon our own views, our own 'present'...Epistemology shows we can never really know the past; that the gap between the past and history (historiography) is an ontological one, that is, is in the very nature of things such that no amount of epistemological effort can bridge it.

(p.12)

Conversely, modernists, such as, Windschuttle (1994), and Appleby, Hunt and Jacob (1994) have argued against the view that the truth of the past cannot be captured in history. This debate between the post modernists and modernists has implications for the history classroom as teachers and students need to be aware of bias in the way that historical facts are presented. This suggests the need for discussion and analysis in the history classroom. The use of language in the form of talk in the classroom between the teacher and students becomes important for exploring the truth and objectivity of history. Other educationists in the field of history, such as Husbands (1996); Edwards and Furlong (1978); Haydn et al. (1997); Schemilt (1983); Munslow (1997) and Jenkins (1992, 1998, 1999), have shown a considerable interest in the use of language for the interpretation of history and for generating historical thinking in the classroom.

Talk is referred to by Wertsch (1991, p.67, p.93) as both "multivoicedness" and the "heterogeneity of voices". This view stems from Bakhtin (1981) and is also used by Knoefler (1998) who view language or talk as the interaction between the "inner thinking self" and the "outer speaking self". Knoefler (1998) has also used Bakhtin's notion of voice and the influence of other voices on the learner in his research into the learning of literature. In his view, the notion of voice provides the link between human mental functioning and the communicative process (Wertsch, 1991, p.13). The notion of voice is also applicable to the history classroom as teachers and students mediate the present and the past voices of historical characters.

Talk is also important to Coltham and Fines (1971). According to their theory, concepts in history are best conceived of as cognitive constructs and as such

are more amenable to students' self-construction of knowledge rather than teacher exposition. In other words, students have to, with the teacher scaffolding the process, talk their way to an understanding of historical concepts. This process consists of the interpretation and re-interpretation of evidence based on the historical facts presented by the teacher. Thus interaction aids the thinking process (Coltham, 1971).

2.6.4 Classroom talk and the learning process

Research shows that students need to be given an opportunity to talk in order for meaningful learning to take place (Barnes, Britton and Torbe, 1986; Britton 1970; Wells, 1985). Such researchers claim that talk is the very essence of any educational activity, where language is not only just an evidence of learning achieved but is used in the process of learning (Jones, 1990).

Talk in the classroom also aids the thinking process. According to Vygotsky (1981), for example, thought development is determined by language. Piaget (1975) however, claims that language primarily reflects thought, rather than shapes it. Nevertheless, both Vygotsky and Piaget saw talk as cognition in action, in other words, talk is an expression of thought. This suggests that every opportunity should be given to students to talk in the classroom.

Since Vygotsky and Piaget, other theories of language and thought have been proposed in relation to talking and thinking in the classroom. Cazden et al. (1972); Hymes (1978); Britton (1973) and Barnes (1976,1986) have supported the view that students learn by using language. Their research show the importance of

classroom talk for learning, in general, and specifically for the development of the thinking process.

Barnes et al. (1986) examined the talk of students in group activities and showed how classroom opportunities can enable students to engage cognitively by describing, hypothesizing, suggesting, planning, criticizing, improving, solving and so on. Barnes and Barnes et al. examined the types of talk that students produced, in particular the exploratory and presentational uses of language. (Note, these are discussed as part of genre later in this chapter). Cazden's et al.(1972), research centred on the study of language in its social context. She brought together theories from various disciplinary perspectives such as anthropology, linguistics, psychology and sociology to examine how teachers and students use language when interacting. Cazden's findings on the classroom talk of Hawaiian children are of special interest to the present study. She observed that, when a teacher asked a question, at least a dozen hands would usually shoot up, but before the teacher could call on a student, several would blurt out the answer. Students also tended to answer questions addressed to another individual but when singled out would only give a minimal answer in that situation. They showed a strong preference for interaction with their peers rather than with the teacher and they appeared more comfortable giving chorus group responses. Cazden et al. report that:

It has been suggested that the response of children when questioned in class had the effect of shifting dyadic relations to collective ones. The reason may be that the child finds protection in collective relationships with adults. (p.311)

2.6.5 Function and language use in classroom talk

The notion of language function and use has been addressed by Bakhtin (1981) and by sociolinguists including Halliday (1973), Stubbs (1976) and Gumperz and Hymes (1972). Hymes (1978, p.xiii) refers to "language use" as "essential meaning" while for Halliday (1973, p.8) "linguistic function" is evident when the context is considered, and not just with reference to the surface forms of speech. Classroom talk includes such functions as the teacher presenting information, giving directions, asking narrow questions, asking broad questions, accepting ideas and rejecting ideas. The functions of students' classroom talk include initiating questions or raising hypotheses, reflecting on content, monitoring thoughts, and, qualifying statements.

Alternatively, Barnes et al. (1986, p.21), refer to the function of language as the "hidden curriculum", whereas Stubbs (1983) describes language function as communication about whether messages have been received and understood or whether a speaker and hearer are in contact with each other. Stubbs also describes metacommunication, that is, the language about language. He says this is used in the classroom to monitor and reformulate the language used. Stubbs (1976, p.159) provides examples of such metacommunication that teachers use to keep in touch with the students, namely: "attract or show attention; control the amount of speech; check or confirm understanding; summarize; define; edit; correct and specify topic."

Stubbs has also suggested that the metacommunication function can be formalised and used for research purposes within an interaction category system.

According to Bellack et al. (1966) language use in the classroom is not so much about its functional purpose, but language use consists of a variety of moves. 'Moves' such as structuring moves, framing moves and focusing moves are made by teachers and students in the classroom when they interact with one another. As has been mentioned earlier, the notion of 'moves' or the "verbal interplay between teachers and students" (Bellack et al., 1966 p.2) stem from Wittgenstein's notion of the "language game" (Hirst, 1974, p.157). The teacher's part in this game is that he/she structures, solicits, responds and reacts. The pupils react to these moves of the teacher with counter moves. For example, when a teacher solicits, the student responds, thus both the teacher and students play complementary roles in the classroom. Integral to this construction of moves is the effect one move has on another, for example, the effect of a teacher's question on a student's response or vice versa. This, in turn, enables the coding of interaction patterns when classroom discourse is investigated.

Patterns of language use have been described by other researchers in other ways. Barnes and Todd (1995, p.9) for example, describe rudimentary talk, which occurs when students provide predictable answers as "presentational" talk. This term (rudimentary talk) is borrowed from Wertsch (1985, p.190) who distinguishes "rudimentary" talk from talk for "advanced mental functioning" purposes. When students are performing at an advanced mental state, they would be using talk to construct knowledge together with the teacher, peer or through text or information

technology. In contrast, when students are engaged in interaction with their peers in order to make a connection between their own ideas and those of others, they are stretching their understanding and in this way may add knowledge to what they already know. When students use talk as a tool to engage in joint thinking with others, there is interplay of communicative and cognitive functions (Barnes and Todd, 1995). Such interplay of communicative and cognitive functions occurs during critical episodes in the classroom and Barnes and Todd advocate that they should be exploited by the teacher to generate thinking.

One way by which the teachers can generate thinking is through the questioning genres (Young, 1992 p.113). Young found that as much as 60% of the classroom talk in his study was in the form of teacher questions. However, the questions themselves had various functions such as, what do pupils know? (WDPK); Guess what the teacher thinks? (GWTT); What do you think? (WDYT) questions. Thus, within the question-answer-reaction cycle, Young was able to discern a number of question types.

A genre with an even more important function is that which is described by Wells and Wells (1992), as being informal in nature. This particular type of talk occurs when students are engaged in the thinking process. Nuthall (1997) explains that the ability of students to do this, that is, translate their ideas into talk, assists their thinking processes, and writes:

By learning that discourse can be multivocal, and by learning how to translate from one genre to another, the student develops the ability to think about discourse and creates a rich understanding that is the product of such metalinguistic thinking.

(p. 722).

Serving a similar function is what Barnes and Todd (1995) call "Exploratory talk" (Barnes and Todd, 1995, p.8). It is a type of 'unshapen' talk that students engage in when they are trying to think out aloud and trying to grope for meaning " ... the hesitancy and flexibility of exploratory talk is potentially a strength when students are talking in order to reshape and reinterpret ideas" (Barnes and Todd, 1995, p. 8). Exploratory talk is usually marked by frequent hesitations, re-phrasings, false starts and change in direction.

Exploratory talk is called " Expressive speech" by O'Keefe (1995, p.6). She describes it as students thinking aloud as they try to express their thoughts. This informal talk can also appear in the form of electronic talk such as the type students use in computer mediated collaborative learning (Warschauer, 1997). Barnes and Todd (1995, p.79) have investigated the social and cognitive functions of talk that take place in such collaborative activities. These include firstly, the social functions of "initiating, extending, qualifying, eliciting, expanding, requesting, responding and accepting", and secondly, the cognitive functions of "constructing questions, raising new questions, setting up hypotheses, using evidence, expressing feelings, reflecting and monitoring thoughts". Thus they have examined student-talk at two levels, the communicative and the cognitive level and studied the interplay of these two types of functions and the strategies that students use in understanding concepts and ideas. This caused Barnes and Todd (1995) and O'Keefe (1995) to conclude that, in order to promote thinking, students must be given opportunities to interact with one another in group and problem solving activities.

Teachers also adopt different categories of talk in the classroom. They can transmit or interpret information. The transmission of information may be achieved through recitation and drilling whereas interpretation may be achieved by the asking of open-ended questions, and adopting strategies such as "uptake" (Collins, 1982, p. 430) or the "reformulating" or "revoicing" (Nuthall, 2002, p.51) of the student's reply. These forms of talk help students in the understanding of historical facts and ideas. There are also other categories of teacher-talk. A teacher can initiate interaction, perpetuate interaction or terminate overt interaction (Coltham, 1975, p.28) with the use of expressions such as 'okay', 'alright'. The function of teacher-talk has been listed by Good and Brophy (2000), by King, Barry, Maloney and Tayler (1993) in their MAKIFAB instrument, and by Young (1992, p. 106) in his "questioning genres". The Verbal Interaction Category System devised by Amidon and Hunter (1966) and Amidon and Hough (1967) contains categories of teacher and student verbal behaviour such as initiating responding-evaluating cycle, asking product questions (which are closed inductive questions), choice questions (which are open ended deductive questions), praising students, and affirming or evaluating correct answers.

2.6.6 Language demands in the learning of the subject history.

Research reveals that there are considerable language demands made by the subject history on the teachers and students. Further it has been reported that linguistic constraints may hinder historians when they attempt to write objectively (McCullagh, 1998). In fact, post modernists claim that language is not sophisticated enough to represent the world and therefore speakers lack the capacity to capture

truthfully what goes on in history (McCullagh, 1998). Researchers have also discussed at length, the relationship between language and thought as can be seen in the Sapir-Whorf hypothesis of linguistic relativity. According to Lee (1997), this hypothesis has important implications for education especially the role of language in teaching and thinking. According to Steele (1976), the development of language and thinking skills "is one of the most important, but also most difficult problems facing the history teacher" (p.17). Steele believes that the efficient use of language is fundamental to good history teaching as:

...the use of language is critical in concept formation and the movement towards the higher levels of thinking. Clearly particular levels of thinking are closely interwoven with the stage reached in language development, and, if history teaching is to improve, much more attention will have to be paid to the relationship between the two.

(p.17)

Several studies have sought to determine the importance of language in history and the implications for teaching history. For example, Hoodless (1994) conducted a small-scale research study with primary students. She investigated the language required to cope with problem-solving tasks. These included "the ability to question, formulate complex sentences, and to use language to convey an understanding of the differences between certainty, doubt and not knowing" (p.20). Hoodless recorded students' interaction and non-verbal communication while engaged on problem-based tasks. Her findings indicate that the students' language and the problem solving strategies were "at a remarkably high level" (p.20). Hoodless, concludes therefore that:

While researchers such as Donaldson have pointed out that it is impossible to prove that language affects the quality of thought, it is clear from this study that it is nevertheless possible to *infer* such a relationship. In several instances, there appears to be a case for arguing that facility in language increases the child's capacity for coping with problems.

(p.20)

Hoodless identified a number of language demands related to studying history.

These include the ability to question for fact finding, and the ability to check and monitor one's own ideas as part of an on-going dialogue. She claims that this has the quality of thinking aloud, but not necessarily expecting an answer. Some questions were complicated, for example, "If they found the body, why didn't they know what the cause of death was? (p.20)" demonstrates a high degree of competence.

Hoodless (1994) also found that the students were able to associate ideas in increasingly complex ways and that this was reflected in their language use. For instance, they were able to use connectives such as 'while', 'when', 'but', and 'because' to make the temporal and causal relationships between events. She found evidence of deductive reasoning when the students used connectives such as 'if ...', 'if...how/how long', 'if... when'. She also noticed that children sometimes used tentative language, 'hedging,' as well qualifying terms such as 'could have', 'might have', 'I think', 'we thought' which all indicate an awareness of the tentativeness and bias in historical evidence and the need to discriminate between fact and opinion. Thus, Hoodless concluded that there was an important relationship between children's capacity to absorb, organise and infer information and their

ability to represent their thinking in language. The implications for the history teacher, she suggests, are to teach the necessary grammar using history as the context. This idea is also strongly supported by Cooper (1992) who has extensively researched the teaching of history to young children extensively.

Hasan and Williams (1996) also report on the linguistic demands of the subject history and the way language is used to construct thinking:

Our major hypothesis with regard to the language of history is that it represents a wide range of genres, beginning with a variety which appears fairly close to ordinary everyday language use and extending through to a stage which is very far removed from such use, thus implicating other- than- ordinary everyday social processes.

(p.191)

Hasan and Williams, however, studied writing rather than oral language. They examined a range of types of history texts in order to understand the language demands made on students. The texts were historical recounts, with description and an evaluative exposition and description component as well as texts that move from personalised accounts to an observer account. The historical recount had temporal and causal markers and in the evaluative exposition there was an increased use of grammatical metaphor and lexical density.

Hasan and Williams' study (1996) has implications for this research where in writing for example, there appear to be a range of oral text types. For instance, a narration will contain temporal markers, cause and effect markers, unexpected 'buts' and nominal groups. Interpretative discourse, on the other hand, will have more evidence of discourse and pragmatic markers, cognitive cues, hedging, pauses,

change of direction and metastatements. Similarly, the oral language of students will range from presentational talk to exploratory talk (Barnes and Todd, 1995).

The language demands in interpreting history have also been addressed by Haydn, Arthur and Hunt (1997). One of the principal barriers to learning, according to Haydn et al., is the complex sentence structures and unfamiliar words used by writers of history:

... the adult language of historians as they present their interpretations of people and situations in the past. At times such interpretations rest on nuances and shades of opinion too subtle for some pupils... the challenge, [he says for the teacher] is to try to make such interpretations and representations accessible to pupils

(p.116)

The language of history has become an even more important issue in the light of the recent debate between the modernist and post modernists philosophers and historiographers of academic history, as discussed earlier in this chapter. As such, historians are showing a greater interest in the use of language for the interpretation of history (Husbands, 1996). The subject history does not have an extensive technical language, and, it is this lack of technical language that creates problems (Edwards and Furlong, 1978). The kind of language needed to handle second order concepts, abstract terms and the interpretation of facts and evidence is propositional, deductive and inferential and can be problematic for students. According to Coltham (1971) teachers need to be aware of this. In their discussion of the importance of language in the learning process in history, Pendry, Husbands, Arthur and Davison (1998), state that:

It is critical to the teacher's ability to convey, in some accessible and meaningful way, the learning targets that have been selected for the lesson. It is critical to the way in which the teacher moves between the everyday language of pupils and the subject specific language of the subject (e.g., reform, total war, Whig, revolution) in order to support pupil learning.

(p.8)

Moreover, Edwards and Furlong (1978) note that history requires abstract terms and a range of past tense forms, which are not necessarily part of the everyday language. (See also Hayden et al., 1997). Using everyday language to explain the past can be a problem when these familiar words have different meanings than from their past usage

This issue of language is also raised in Shemilt (1983, p.13) in his review of the "Schools Council Project, 'History 13-16'". He notes that students who performed at the formal operational stage still grappled with language in historical argument. For example, students had difficulty in finding "a propositional language appropriate to history" and as a result were employing the language of Mathematics and Science to describe historical causality, by means of a "deviant equation" (Shemilt, 1983, p.13) i.e., the language used to explain mathematical formulae.

Hirst (1974, p.72) has tried to define the kind of talk and thought that goes on in the history classroom where the meanings of words are more concerned with "connotation rather than with denotation". Hirst, in his reference to the link between language and thought, states that in communication, thoughts are not coded into words and then decoded by the recipients back into thought. This is because thinking involves the use of words, sentences and symbols. Meaning, too, has to be

negotiated between teachers and students. Therefore, for thinking to take place in the History classroom, students need to have mastery of the whole range of complex language games (to use Wittgenstein's term), specific to the subject History. Hirst sees it possible to distinguish different uses of language in making assertions, in asking questions, in giving commands and so on. What specific language moves and games are used in the teaching and learning of history and in what context of learning, is however, not known and needs to be researched.

Hirst's theory of language and thought also makes reference to the concept voice which originated in the work of Bakhtin (1981) who theorised that language and thought is dialogic in nature. This theory of voice was later developed by Wertsch (1991) who explained that when an utterance is made, there are two voices heard, "the speaking personality and the speaking consciousness" (Wertsch, 1991 p.13). This concept is important in understanding the exploratory and expressive speech when students are thinking aloud. This notion of voice constructs a strong link between mental functioning and communicative processes whereby mental functioning originates in social communicative processes (Wertsch, 1991). The thoughts of students are also revealed by examining the language game that they play, that is, in the way they use language. Wittgenstein's and Hirst's reference to language games is pertinent to the current research as it indicates the language demands of the subject History. There appears to be both a "right language" and a "private language" (these terms are borrowed from Holtzman and Leich, 1981, p.1). There has been discussion on the objectivity of Wittgenstein's theory, how it can be adopted and used by students of history to enable them to function at a higher level

of cognition, but only if we regard them (the history class) as belonging to a special linguistic community.

2.7 Teaching pedagogy and the promotion of historical thinking in the classroom

The importance of pedagogy in the promotion of thinking in history is explained in the Neo Piagetian studies (e.g., Booth, 1983) which posits that, with appropriate teaching-learning strategies, it is possible to raise the thinking of students to higher levels of cognition. This also supports the theory of Bruner (1960) that with appropriate pedagogy “any subject can be taught effectively in some intellectually honest form to any child at any stage of development” (p.52).

As a result of this interest in pedagogy, research in history has moved away from looking at the maturation of thinking and towards an examination of the effectiveness of various teaching techniques and conditions (Booth, 1983; Carey, 1985; Gelman and Baillargeon, 1983; Mandler, 1983; Downey and Levstik, 1991). Accordingly, this section examines research on the effect that pedagogy can have on historical thinking in the classroom

In 1975, Bate and Moore (cited in Steele, 1976) studied fifteen year olds who were given initial instruction on the basic processes of historical thought. These students made substantial progress in the development of their critical thinking ability compared to the control group. This research shows that special programs and teaching methods do influence higher-level thinking in the classroom.

Since the 1970's, educators have believed that it is possible to accelerate student's historical thinking through interaction with the environment, which is both

social and intellectual (Ballard, 1970). Therefore, the teacher has a key role to play in generating higher level thinking in the history classroom. Coupled with this is the concern of pedagogy that has developed since the 1970s regarding changing students' attitudes towards the subject and aiding in the acquisition of skills (Steele, 1976). There is also today, a movement away from a transmission approach and towards information processing and student transformation as students become more "active constructors of learning" (Blumenfeld, Marx, Patrick, Krajcik and Soloway, 1997, p.869). Blumenfeld et al.(1997) summarise the impact of such technological approaches in the following remarks:

... these technological experiments are quite new. Questions remain to be answered about how to design the systems, to use combinations of media, to scaffold learning, to develop pedagogies to facilitate their use, and to evaluate their impact. Both the programs and technology to support teacher change have potential for helping to create promising new occasions for teaching and learning in schools. Exploring their potential, their promise, and their limitations is the task that educators now face.
(p.869)

In the present millennium, new multimedia interactive technologies, such as computers, are being used to complement teachers' attempts to enhance learning and understanding in students. Some examples of such interactive multimedia for teachers is the Project Support Environment (PSE) and the Student Learning Environment (SLE) developed at the University of Michigan and reported by Blumenfeld et al. (1989) and the Master Plan Two initiated in Singapore.

Because of changes such as these there is now a call by educationists for more research into the effectiveness of teaching techniques, especially those which will bring about the best learning in history (Barton, 1996). Barton supports this

view by making a reference to Hargreaves (1994) who states that, rather than examining the aims of teaching and learning in history, it is more important to examine the pedagogy itself.

This interest in the effect of pedagogy on the thinking processes in the teaching and learning of history has led Newmann, Onosko and Stevenson (1990) to investigate the social studies pedagogy that may develop students' higher order thinking. They used a rating scale to study the nature of discourse in one hundred and sixty high school social studies lessons from five schools. They identified several variables for quantifying indicators of classroom thoughtfulness and concluded that high thoughtfulness and low thoughtfulness differed on five dimensions:

The teachers' careful consideration of students' reasoning;

The teachers' Socratic questioning;

The students' contribution of original ideas;

The students being articulate and germane; and

The students being involved in the lesson

This research indicates that, in contrast to lectures and recitation, teacher- centred discussions were more likely to challenge students to go beyond the information given.

Several other research studies also have been carried out on discussion as a form of pedagogy that promotes higher-level thinking. Discussion occurs when teachers and students try to negotiate meaning and understanding by soliciting opinions. It has been found that in discussions which contribute to the learners'

knowledge and which promote higher-level thinking (Wilén & White, 1991), there are longer exchanges, such as a shift from a T-S-T (teacher–student- teacher) pattern to a T-S-S-T (teacher-student-student-teacher) pattern. Further, it has been found that the teacher may prompt students to participate by:

Making a declarative statement (for example, give an opinion); Making a reflective statement (give the sense of what someone has said).

Describing his or her state of mind (I'm sorry, I'm not quite getting your point);

Inviting the student to elaborate (I'd like to hear more of your views on that);

Encouraging the student to ask a question;

Encouraging other students to ask a question;

Maintaining deliberate, appreciative silence (until the student resumes or another enters in the discussion).

Dillon (1984, p.55)

In pedagogies where the teacher leads discussions there would be opportunities that prompt students participation through the use of cognitive cues. This suggests that dialogue and discussions provide an environment for students to recognise such cues and respond accordingly (Gumperz, 1982; Vygotsky, 1986).

Pedagogies which involve interaction make a wide range of cognitive demands on students (Nuthall and Lawrence, 1965). The students are expected to provide causal, sequential, procedural, teleological and normative explanations to the teacher's questions. In causal explanations, students have to verify and justify why an answer is wrong; in sequential explanations they need to explain how something has come about; in procedural explanations they need to explain

processes; and in teleological and normative explanations they need to verify and justify their responses. Historical thinking also occurs when students are encouraged to connect history with everyday experiences (Keeves, 1997). All this is brought about when teachers and students are engaged in discussion (Nuthall, 2002) in the classroom.

Teacher facilitated discussion involving the whole class or a group of students is the most extensively researched pedagogical procedure in constructivist teaching because in this form of discussion “significant knowledge and ways of thinking are produced and assimilated” (Nuthall, 2002 p.47). Demands made on the teacher are also great, as he/she has to be a good listener in order to facilitate the discussion.

Nuthall (2002) claims that there are two layers in this type of discussion. At one level, there is talk about the subject matter. On the second layer there is talk about the kind of talk that is occurring at the first level. Varela, Luster and Wenzel (1999, p.230) have identified the first layer as the “intellectual – thematic dimension” and the second layer as the “social – organisational dimension.”. Nuthall believes that the teacher participates more at the second level of the discourse as he/she facilitates the discussion.

Another important pedagogy is that of skilful questioning. This is an extremely important and useful method for developing historical thinking in the classroom (Mbenga, 1993; Smith, 1990; Young, 1992). If students are to be engaged in critical thinking and historical understanding they too should be able to ask the ‘how’ and ‘why’ of events (Issac, 1994). Smith (1990) devised a

questioning approach that develops students' interrogative attitude to historical information. It encourages students to devise their own questions for topics to be studied. He believes that this approach can enhance understanding and the retention of the facts. An alternative taxonomy of questions pertaining to history has been produced by Garvey and Krug (1978). Their taxonomy includes: Recall questions, comprehension questions, interpretation questions, extrapolation questions, invention questions and evaluation questions.

As part of his study on the importance of questioning in historical thinking, Mbenga (1993, p.24), from his observation of Teacher Training in Zambian and Botswana schools, noted that too many questions in history lessons were factual, recall and memory questions. This approach, he reports is even used with new lessons and results in students guessing. He proposes a useful classification of questions which is as follows (examples of the questions are given in italics):

Comprehension questions (students recall information intelligently):

"What made it so difficult to establish peace..."

Interpretation questions (students explain or paraphrase information):

"Why were there rebellions among white settlers..."

Extrapolation questions (students use information to infer or conclude what is not stated explicitly):

"How would the desire to control the Deloga Bay trade have..."

Invention Questions (these are direct 'imaginative' questions which require students to put themselves in a historical situation and use its evidence to inform their imagination)

"If you had been the Zulu leader, Dingane, how would you have dealt with...."

Evaluation Questions (students are required to make judgments and to substantiate or justify them with facts or examples being aware that bias exists).

"Is the Author saying this because he is a white colonial officer or because that is the only way to interpret...."

Mbenga (1993, p.24), also suggests that the sequence of "routine, recall, comprehension, extrapolation, invention and evaluation" should be followed in questioning and stresses that the last four categories of questions assist students to think historically. Further, these questions, he explains, are the very questions that historians ask themselves when studying historical evidence.

Closed questions are often seen as being narrow or low-order questions and open-ended questions as high-order questions. Closed questions are often used in recitation (i.e., the teacher asks a closed question, followed by students' response and its acceptance by teacher which is followed by another closed question). This technique tests recall and comprehension. Such recitation forms the predominant discourse in many classrooms (Cazden, 1986; Hoetker & Ahlbrand, 1969; Mehan, 1978; Stodolsky, 1988). It has, however, been observed by Young (1992) that not all recitation questions are of a low-order as they can be directive, instructional or rhetorical. In addition, teachers might use a range of questions, low-order to high-order and back to low-order to stimulate student thinking (Wilen & White, 1991). Dillon (1983) has, however, argued that teachers should use statements and pauses instead of questions in discussion to prompt more student participation. Similarly, Dance (1970, p.62), in his discussion of traditional and modern methods of teaching, states that "it is naturally the teacher's statement which is most important." He

believes that some teachers with a gift for exposition can captivate a class of students. Therefore he states that traditional views of teaching should not be totally discarded for “modern” methods.

Researchers with an interest in social studies have called for teaching and learning methods that are meaningful, integrative, value-based, challenging, and active in order to bring about high order thinking in students (Brophy, 1996). Recent published work on classroom pedagogy (McInerney and McInerney, 1994; Brophy and Good 1997; Brophy 2001, 2002) and constructivist learning theories, center on the promotion of thinking in the classroom through interaction between teacher and students.

Research on the teaching of social studies indicate various ways by which this interaction may be fostered. This is demonstrated in the work of researchers (Brophy, 1996; Barnes and Todd, 1995; Cooper and McIntyre, 1996; Pendry, Husbands, Arthur, and Davison, 1998; Britt, Rouet, Georgi and Perfetti, 1994) as well as research carried out in metacognition (Vockell and Deusen, 1989), electronic talk (Warschauer, 1997) and power relationships in the classroom (Candela, 1999).

Other pedagogies in the research concern student-centred strategies which are applicable for the history classroom. Brophy (1996) has introduced several of these which he believes help with the understanding of historical concepts and ideas in his “Learner-Focused Conceptual Change Model in Action” approach to the teaching of history (Brophy, 1996, p.140). He stresses that the teachers should be aware of students’ prior knowledge of the topic and engage and elicit their ideas by working with them in small groups. Brophy’s strategy is inquiry-oriented and

concept-focused. He first assesses students' prior knowledge then gives them opportunities to express their feelings about that knowledge and follows this up with writing and discussion. He uses a central question to guide students in contributing their ideas and students work in small groups on creating a role-play. Students are also encouraged to synthesize and compare their findings. Brophy has found that this concept-focused inquiry helps in the teaching of history to fifth graders. Barnes and Todd, have also researched the strategies that students adopt in group discussions. Barnes and Todd (1995) make reference to two dimensions, the cognitive and the affective, as interacting with each other in group discussions where students are engaged in divergent thinking.

Other educationists, such as Cooper and McIntyre (1996) and Pendry et al. (1998) have explored effective teaching strategies in the History Classroom. Cooper and McIntyre suggest that the best strategies involve students in the learning process by stimulating and generating their thought processes, with examples and illustrations used in order to reach out and keep in touch with them.

Another important strategy that teachers adopt is the scaffolding of information. Pendry et al. (1998) make reference to Vygotsky's zone of proximal development and scaffolding which involve more experienced and expert adults helping the students through their interactions. The adult, in this case the teacher, helps the student by mediating between the world about which they are teaching and where the students are functioning. The mediation occurs through the questioning process.

The impact of using historical texts of both a primary and secondary nature in the classroom as a way of promoting thinking is another recent field of research (See Britt et al.,1994). Especially important in recent studies is evidence that is available electronically. Students look at different authors' accounts of the same event and through this they learn to identify and question biased interpretations and so study historical controversies and learn to question the truth of factual accounts. Britt et al. (1994) suggest that readers of such historical documents build for themselves an "argument model" (p.72) which is a representation of the various interpretations in the texts.

Educationists also advocate the teaching of metacognitive strategies to help students think better. Such higher order thinking skills help students to reason and to think critically. Metacognitive strategies may enable students to become both aware of the process of thinking and to use it to solve problems. When students become adept at these skills they perform them automatically (Vockell and Deusen, 1989).

Extensive research has been carried out on how computers can help generate higher-level cognitive thinking and language learning in the classroom, for example, see studies by Vockell and Deusen (1989) and Warschauer (1997). It is believed that on- line communication, which allows for reflection and interaction, is a "possible cognitive amplifier" (Tarashim, 1990; Harnad, 1991). For these reasons, computer- integrated lessons may also assist in the learning of history.

At the same time there is an argument that cautions teacher on the use of technology for the teaching of higher order skills at the expense of "on-site"

instruction where there is eye contact, face-to-face discussion and interaction (Zophy, 1998, p.35). On-site instruction, Zophy argues, accommodates the processes of learning, and technology is not a substitute for real social interaction. He is sceptical about the belief that on-line communication allows students to communicate because opportunity to develop quality of communication is not provided.

However, there are authoring programs and CDs which provide valuable material for the history teacher, but more research is required on how these can be integrated with cooperative and collaborative activities in the history classroom. Real-time, on-line collaboration is spontaneous and more like natural talk and this kind of talk also needs further research. Warschauer (1995) has studied the language generated in electronic mail (Email) communication extensively. However, further research is still required in the history classroom about how "electronic talk", such as that generated when students use chat modes and Email, can be used to promote high-level thinking. For instance, Warschauer (1997), calls for more research on computer-mediated collaborative language learning.

Another area of recent research has been on strategies which allow for greater participation from students and the study of power relations in the classroom as seen in the work of Manke (1997), Cooper and McIntyre (1996), Robinson (1994) and Candela (1999). Power relationships in the classroom are often maintained by teachers using the initiating question-student responding - teacher evaluating (IRE) cycle. However, by departing from the IRE cycle, more thoughtful talk can be generated (Cazden, 1988). Furthermore, teachers and students can have joint

ownership of the direction of the lesson (Robinson, 1994). Teachers can achieve this by adopting an interactive, reactive element into lessons i.e., by breaking away from the IRE cycle (Cooper and McIntyre, 1996). Another area of interest to researchers is whether on – line collaboration using chat lines creates more responses from the students, than when they are in the classroom with the teacher in control.

2.8 Conclusion

Newmann's (1991) study on classroom thoughtfulness has generated a great deal of interest with regard to methods for assessing thinking and teaching practices that promote thinking in students. Wilen and White (1991) have examined interaction and discourse in the social studies classroom and have called for more research similar to Newmann's study to be undertaken. They have suggested that more research is needed to show what is involved in the actual exchanges between teachers and students in their discussions. Downey and Levstik (1991) have also called for research to examine the effect of classroom interaction on the teaching and learning of history and others have called for classroom researchers to not only code but record actual verbal interaction and analyse these transcripts in order to understand the teaching-learning processes. When students interpret, analyse or manipulate information, and are involved in reasoning and decision-making and problem-solving tasks, and go beyond simply applying previously learned knowledge, they are involved in the complex forms of cognitive activities that make up higher order thinking (Newmann, 1987, 1991; Ericsson and Hastie, 1994). When

such incidents happen in the course of the lesson they can be described as critical incidents or episodes. Contemporary approaches to the study of thinking make distinction between general forms of thinking and “complex” forms of cognitive activities (Ericsson and Hastie, 1994, p.37).

Whilst there is research conducted on the thinking processes and teaching strategies that promote thinking in the classroom and there is also research on the different forms of thinking and activities such as problem solving that promote higher order thinking, what is lacking in the research on the nature of talk is the thinking process and contextual factors that which may or may not be associated with it. That is, what promote or inhibit interaction in the classroom. Further, what patterns of interaction emerge when there is historical thinking in the classroom.

These features need to be examined in other cultural context such as the one presented in this research. Different cultural contexts may portray different features unique to that system. Thus the nature of talk and interaction patterns that occur in historical thinking in the Singapore classroom is the kind of research that Newmann (1991) and Wilen and Whyte (1991) have called for in order to have a better understanding of the thinking processes and talk.

Thus the research presented in this thesis has sought to address many of these demands raised above. This study of lessons in six Singapore secondary schools considers the following research questions.

Research questions

- What is the nature of the talk in the history classrooms in Singapore?
- What are the patterns of interaction?
- Are there critical incidents where talk leads to thinking about historical processes?

CHAPTER THREE

Methodology

3.1 Overview

This research is an exploratory study of the nature of talk and the patterns of interaction generated in twelve history lessons as teachers and students from six secondary schools in Singapore, discuss historical concepts and ideas. The research is particularly concerned with the historical thinking processes reflected in the language used in the history classrooms when teachers and students are engaged in the interpretation of history. Hirst (1974, p.72) in defining the kind of talk and thought that goes on in the history classroom says that words used in this context, are concerned with "connotation rather than denotation". Further, Hirst in his discussion of the link between language and thought states that he does not agree that in communication thoughts are coded into words and then decoded by the recipients back into thought. He claims that this is because thinking involves the use of words, sentences and symbols. For this thinking to occur meaning has to be negotiated between teachers and students. What specific language moves and "games" (Wittgenstein, 1972) are used in the teaching and learning of History, he says, are not known and need to be researched. Therefore it is the purpose of this research to do just this. In order to do so, a high and low inference coding system was used to code and analyse classroom-talk and the interaction that occurred.

A special focus of the research is the episodes that occur when teachers and students appear to be engaged in the process of historical thinking and in the interpretation of history. In this study these are deemed to be "critical episodes". They are similar to what Tripp (1993 p.25) described as "critical incidents." They appear to be typical incidents occurring in the classroom until a closer analysis and study render them to be critical and significant events in the classroom. Although Tripp's reference was to incidents, as this research involves description of discourse, the term 'critical episodes' will be used.

During these critical episodes it appears that teachers and students are engaged in creating historical understanding through a negotiation of meaning. Contributing to this process are factors such as the cognitive and affective characteristics of the participants. The occurrence of critical episodes is demonstrated by the questions posed by the teacher and students, and the responses, the meta-communication, discourse and pragmatic markers, thinking fillers, hesitations, change indirection and disfluency as they interpret events in history. That is, these features act as indications that the teachers and students are engaged in establishing historical thinking and understanding.

3.2 Participants

Six secondary history teachers and one of each of their classes participated in the study. The students were aged between fifteen and sixteen years of age. Four teachers were males and two were females. They were all experienced teachers. Two were teaching in the Special stream, two in Express and two in Normal stream classes. As noted in 1.2.1 in Singapore schools, approximately 10% of students are in the

Special stream, 50% in the Express stream and 40% in the Normal stream. The Special stream classes were in two independent schools. The other four classes were located in government schools. A convenience sampling method was used in this study in that the schools were selected based on the willingness of the principals and teachers to be involved in the study. The teachers were working within a normally occurring unit and the lessons were according to the work plan based on the National curriculum and the history syllabus. All schools are encouraged to devote at least 30% of curriculum time for technology related activities (Educational Technological Division, 2002). The composition of the teacher group and the number and gender of students is given in Table 2 below.

Table 2**Participants in the study**

| Teacher | Stream | Gender of Teacher | Years of experience | Total Number of students in class | Gender of students |
|---------|---------|-------------------|---------------------|-----------------------------------|---------------------|
| 1 | Special | Male | 5 | 20 | 20 boys 0 girls |
| 2 | Special | Male | 3 | 25 | 13 boys 12 girls |
| 3 | Express | Male | 15 | 39 | 13boys 26 girls |
| 4 | Express | Male | 3 | 40 | 20 boys 20 girls |
| 5 | Normal | Female | 5 | 35 | 22girls 13 boys |
| 6 | Normal | Female | 8 | 32 | 20 boys 12 girls |

3.3 Procedure

The steps described below were followed during the data collection:

3.3.1 Step one

Written permission was obtained from the Singapore Ministry of Education and all the principals of the schools in which the teachers worked. Next, six teachers were invited to be involved in the study. Letters were also sent to the parents of the students involved and to the students informing them about the study and seeking their permission to collect data.

3.3.2 Step two

Each of the six teachers was asked to conduct two double period lessons, each lasting for about sixty minutes, with the same class. Therefore, the data corpus consisted of twelve lessons (see Table 3). The teachers were informed that the focus of the research was the nature of talk in the classroom. A table showing details of the context in which the lessons were held is provided in Appendix K.

Videotapes and audiotapes were used to record the classroom-talk. Data was also collected by way of observation and field notes. The field notes were taken as a running commentary of the classroom events.

Table 3**Distribution of lessons from each stream**

| <u>Teacher</u> | <u>Stream</u> | <u>Lesson</u> |
|----------------|---------------|---------------------------|
| 1 | Special | Lesson I Lesson II |
| 2 | Special | Lesson III Lesson IV |
| 3 | Express | Lesson V Lesson VI |
| 4 | Express | Lesson VII Lesson VIII |
| 5 | Normal | Lesson IX Lesson X |
| 6 | Normal | Lesson XI Lesson XII |

3.3.3 Step three

Prior to the actual observation of the lessons, two preliminary visits were made to observe each of the classes to familiarise the teacher and students with the researcher and the research equipment. The researcher also used this opportunity to get to know the teachers and students so as to reduce the observer effect of audio and video taping of the lessons.²

² Stubbs and Delamont (1976) conclude that all natural speech is influenced by the situation presented and the presence of the tape recorder, for example, is another such situation and that the effect of the tape recorder on speech will decrease with time.

3.3.4 Step four

This step involved the actual observation and recording of the two 60 minute lessons in each of the six classes. Four tape recorders were used to record the audio data. A tape recorder was placed in the centre of the classroom, one at either side of the class and one on the teacher's table. The teacher wore a microphone clip. A video camera was placed at an angle in front of the classroom which best facilitated the recording of both the teacher and students. The locus of observation was the talk generated as students interacted with their teachers and with their peers in the teaching and learning processes in the history classroom.

3.4 Analysis

The twelve taped lessons were then transcribed and coded using an adapted version of the verbal category system of Amidon and Hunter (1966) and analysed according to teacher-talk, student-talk and other types of talk. The interaction patterns were described and classified, and the critical incidents identified.

3.4.1 Transcription

The twelve audio/video taped lessons were transcribed using regular orthography by the researcher. The transcription procedures used in this research were based on those advocated by Bellack et al. (1966) [Appendix C]. A line of discourse consisted of 10cms of type-written transcript. All complete utterances of less than one line were counted as one line. In longer utterances, the final line segment was counted as one line if it exceeded half the line; if it did not, it was discounted. No explicit punctuation marks were used in the transcripts. Metastatements such as 'okay' and

'alright' that were used by the teachers; hesitations and pauses such as 'ah...', discourse markers such as 'but...because'; and noise 'unproductive' laughter and inaudible parts were also noted and recorded [refer to Appendix D].

Twenty five percent of the transcripts were then checked against the video recording, by the researcher, in order to ascertain accuracy. There was 92 % accuracy and some changes had to be made to the transcript in accord with the identified discrepancies. Five Singaporean teachers listened in to the twelve tapes and checked them against the transcripts for accuracy. There was 85 % accuracy (the average score from all the five teachers) and again changes were made according to these discrepancies.

3.4.2 Coding

The transcripts of the twelve lessons were coded using an adapted version of the verbal interaction category system from Amidon and Hunter (1966) with the incorporation of some descriptive features of student talk and discourse moves from Barnes and Todd (1995). The two systems are brought together because of the different advantage offered by the other system. Amidon and Hunter examined classroom talk more from the perspective of the teacher whereas, Barnes and Todd examined classroom talk from the perspective of the student.

The transcripts of the twelve lessons were coded using an adapted version of the verbal interaction category system (Amidon and Hunter, 1966) to determine the following:

- i) the nature of talk, namely the type of teacher-talk, the type of student-talk, and the interaction between them;
 - ii) the patterns of interaction; and,
 - iii) finally, based on a qualitative examination of these, critical episodes were identified.
- i) Nature of talk in the history classrooms in Singapore

To address the first research question the data were coded to determine the nature of talk. The coding was undertaken using a category system that describes the macro moves involved in a) teacher-talk, b) student-talk, and c) other classroom-talk (e.g., presentational talk, verbalising while writing, and, talk off task). This system of macro moves is based on that outlined by Amidon and Hunter (1966) [Appendix A]. The coding of such moves also incorporated the descriptive categories of student-talk described by Barnes and Todd (1995) [Appendix B].

The macro moves were coded in the following way:

a) Teacher-talk

Seven types of teacher-talk (TT) were identified and coded. They included those occasions when the teacher: 1) gave content and information; 2) provided direction or stated procedure; 3) asked a closed and inductive question; 4) asked an open and discursive question; 5) accepted ideas and extended a response; 6) explicitly

rejected ideas; and, 7) disciplined students. Below are examples to illustrate these, all of which are taken from the data of the current study.

TT 1

The teacher gave content information (explained, oriented, asked rhetorical questions, gave extended lecture), e.g.,

TT: Today's lesson is on the Japanese occupation it is on the Japanese how the Japanese used propaganda

(Example 1)

TT: You do remember what we did yesterday

(Example 2)

TT 2

The teacher provided direction or stated procedure (managed information and asked procedural questions), e.g.,

TT: I want you to work in pairs

(Example 3)

*TT: The next question is very simple and straightforward
Do you want me to rephrase the question*

(Example 4)

TT: What else

(Example 5)

TT3

The teacher asked closed and inductive questions in order to test what the students knew. For example, the teacher asked drill questions, questions requiring one/two word replies, questions requiring yes/no answers, questions to which a response could have been predicted and pseudo (display) questions. Alternatively the

teacher asked inductive questions to get students to demonstrate their prior knowledge and to motivate them to further enquiry, e.g.,

TT: *Poh Choo³ said communists believed that all people are/*
ST: *equal*
TT: *equal* (Example 6)

TT: *Chiangxi was before the long march*
but after the long march
what was the end point
yeah starts with a Y
ST: *Yangtze*
TT: *no that is a river*
okay
the end point is Yunaan Yunaan (Example 7)

TT: *why did they need a base in the Malay*
archipelago
ST: *they needed a distribution centre*
TT: *okay*
what was it to serve as a what
ST: *to serve as the port to import goods from*
spices from the spice islands to other parts like
China (Example 8)

TT 4

The teacher asked open and discursive questions which called for unpredictable responses. They could be described as thought provoking and, unlike display questions they are those to which the teacher did not already know the answer. These questions are discursive in nature and were apt to elicit a longer response than those types of questions described as closed (i.e., TT3), e.g.,

ST: *...that is the reason evolution is supposed to be a little*

³ All names used in this research are pseudonyms.

- more natural like*
 TT: *people will term it natural when we say it is natural*
okay
define what you mean by natural
 ST: *I think*
natural means not
ah... ah...
it is not dictated by any group of people (Example 9)

TTS

In this type of talk the teacher accepted ideas and extended them by using the students' ideas as a springboard for discussion. To do this the teacher may have clarified what a student had said or may have praised the student's ideas, summarize or simply comment without rejection, e.g.,

- TT: *what was the one product*
what other products did China want
 ST: *opium*
 TT: *that's right*
opium they came from'
 ST: *India*
 TT: *well done and*
what was the one product that the British will carry
on away back home which is in high demand in
Europe (Example 10)
- TT: *first of all why did they need a new base*
 ST: *because*
the Dutch had conquered most of their Malacca port
so
the British needed a new port to counter Dutch
influence in the east
 TT: *that's right*
it was not just Malacca but also in Batavia that they
arrived that the British needed a port that would be
able to challenge or counter dutch monopoly of
trade in the region
okay
that was one reason

*well done
then any other points
what's wrong with Penang and Bencoolen*

(Example 11)

TT 6

The teacher explicitly rejected the students' ideas or ignored their answers and responses, e.g.,

TT: No, that is not the answer

(Example 12)

TT 7

The teacher disciplined behaviour or he/she criticized student behaviour, sometimes using sarcasm, e.g.,

TT: Well if you don't want to listen its your own funeral

(Example 13)

T: Sit up

(Example 14)

b) Student-talk

For this analysis five types of student-talk (ST) were categorised and coded. The categories consisted of times when: 1) students responded to the teacher in predictable ways; 2) students responded to the teacher in unpredictable ways; 3) students initiated talk with the teacher; 4) students responded to each other; and, 5) students initiated talk with other students. Below are examples to illustrate these, all of which are taken from the data of the current study.

ST1

This is when students responded to the teacher in predictable ways (choral responses, scattered responses, and echoing of the teacher), e.g.,

TT: *what was Malaya called by the Japanese*

STs: *New Malai*

(Example 15)

TT: *... they will say they came to Singapore and in the course of the fights many people died whereas here we want to show cruelty they were... so we will try to say things sometimes some of the points may be what*

what is the word

ST: *taken up*

ST: *exaggerated*

TT: *that is good*

exaggerated

(Example 16)

TT: *... no no what what is the main interesting part about this party the three/ the three/ races*

STs *races*

(Example 17)

ST 2

This is when students responded to the teacher in unpredictable ways, e.g.,

TT: *How how do you define what happened in*

Japan Meiji

ST: *A speeded up revolution*

(Example 18)

ST 3

This is when students initiated talk to the teacher by asking for clarification, questioning or challenging the teacher. The student may have agreed or disagreed with the teacher or added their knowledge as new information to the class discussion, e.g.,

TT: *so
there were some changes then if he lost some of his
powers yeah*

ST: *so
that means reformation is important in the so called
evolution
right*

(Example 19)

ST 4

This is when a student responded to another by seeking clarification, extending or qualifying what his/her partner had said, by questioning or challenging, or by adding new knowledge, e.g.,

ST1: *why Farquhar is not being in Singapore is because
of Raffles
because
unnecessarily they fired him and sent him back
home in England
right
that wrong deed to Farquhar was righted there was
an announcement made then Farquhar redeemed his
prestige
but
in Singapore everybody still doesn't like him*

ST2: *but
I think
also that the the achievements by Farquhar are are
not like monumental or or they are not like like big*

ST1: *no but
the things those contributions that he made
were vital to the survival of Singapore in its
budding stages*

ST2: *I know
they were they were they were vital
but
the only people who would truly realise the importance
would be people at that time and they are all dead
yeah*

(Example20)

ST5

This is when the students initiated talk with other students by asking for clarification, making side remarks, prodding, correcting, questioning, challenging, disagreeing, or adding new knowledge. When a student initiated talk it may have contained the following initiating moves such as, "I think..." "okay..." "...so". A new perspective may also have been initiated when something is said after a pause in the talk, e.g.,

ST1: *Farquhar only influenced the people in Singapore only sort
of influenced the people in Singapore at that time*
(pause)
(pause)

ST2: *history was indeed unfair to people like Farquhar
in the sense that
when Farquhar was running Singapore he only
affected the island of Singapore itself while Raffles'
discovery of Singapore would affect the East India
Company...* (Example 21)

ST: *okay
now about democracy* (Example 22)

c) Other Talk

In addition to teacher-talk and student-talk, other talk (OT) also occurred in the observed history classrooms. In this study this was coded as: 1) the teacher verbalised while writing on the board or when a student verbalised whilst doing a writing task with a group of students; 2) a student made a formal oral presentation⁴ in class 3) students were engaged in electronic talk; 4) teachers and students were engaged in that type of talk which is “off task”; and, 5) when a student switched from English to the mother tongue (i.e., code-switching). Below are examples to illustrate these, all of which are taken from the data of the current study.

OT 1

The teacher verbalised while writing on the board, e.g.,

TT: *Please take down this in your notes ...
set of ideas ideas set of ideas ideas relating to
communism is a set of ideas relating to government
economists and society a set of special ideas
relating to government,* (Example 23)

OR

the student verbalised during a written task, e.g.,

ST: *s - o - c - i - a - b - l - e*
ST: *now source b*
ah
ST: *facial not face f - a - c - i - a - l* (Example 24)

⁴ See Barnes et al. (1986, p.72) for a discussion of this concept.

OT 2

The student gave a formal oral presentation, e.g.,

- ST: from the first picture
you can see
tha the is influenced by the westerners and he could
probably be western educated while in the second picture
you can see
tha the wears his own general suit which is
of his own country and of his own ranking
we can see
from the both pictures that the first picture taken
from Thailand is
ah
this is on the right of the right hand side of the paper
you can see
that he is much more grander than the first picture which
shows his people that he is powerful and ... (Example 25)*

OT 3

The students engaged in computer mediated electronic talk, e.g.,

- ST: KMT's chances of ensuring victory over the
communists may have slightly increased if not for
the existence of the sino Japanese war
however
they would eventually lose as there was rampant
corruption and very low morale amongst the KMT
forces and since the KMT was sympathetic to the
industrialists and the more wealthy families they did
not have the support of the peasants and lower
classes, which constituted the majority of the Chinese*

people also the CCP had more peasant –friendly policies which helped them gain mass support from the peasants and lower classes the sino jap war was because the KMT lost more troops of better quality fighting the Japanese while the CCP sustained relatively lesser losses

(Example 26)

OT 4

When a student, or teacher or both, are engaged in talk that was “off task”, e.g.,

TT: how could a teacher be like that come to class and...

ST: forgetful teacher

TT: and forgetful teacher no salary forget you get fired you know

(Example 27)

OT 5

When a student switched from English to their mother tongue, e.g.,

*ST: How many similarities
one only*

right

ST: one mia

(Example 28)

ST: What is the meaning of revered

ST: What is the meaning of revered

No idea

ST: You know what is revered

ST: I know the Chinese sen sen

(Example 29)

ii) Patterns of interaction in the history classroom

As a first step to investigating the patterns of interaction between the teacher and students, a matrix system was initiated. This was adapted from Amidon and Hunter (1966, p.216). Transcript data were entered into a matrix so that the patterns of interaction could be identified (See Appendix E).

From the matrix it was possible to identify the recurring patterns of interaction in the various history lessons. There were ten major interaction patterns with variations within each of these (Note: some of the variations appeared with greater frequency than others). The ten patterns included when: 1) the teacher provided an explanation; 2) the teacher's explanation led to questioning; 3) there was qualification and extension of questioning by the teacher; 4) the teacher's questioning was followed by student response; 5) a student's response was followed by the teacher's treatment of the response; 6) the teacher responded to a student's response; 7) a teacher's negative response was followed by a student's response; 8) a student initiated talk to the teacher and the teacher responded; 9) a student initiated talk to a peer and either their peer or teacher responded; and, 10) other types of talk and where the teacher and /or student responded. Below are examples to illustrate these, all of which are taken from the data of the current study.

1) Teacher explanation pattern

There were five variations of this type of pattern as outlined below:

a) *Giving of content followed by the giving of more content (i.e., TT1-TT1)*

- TT: the only way to make Russia stand out above the rest is to make Russia powerful when your country is powerful the people will respect you other countries will respect you that was what Stalin was thinking about similarly jumping ahead of the chapter when Hitler was at the helm of his country's power he was also he wanted to make Hitler he wanted to make Germany powerful again

(Example 30)

b) *Giving of procedural information followed by the giving of more procedural information (i.e., TT2-TT2)*

- TT: when you make an opinion you must always back it up with a historical fact remember your elaboration recapitulate the thing you have learnt and then as you make the statement think about how you can use the evidence to support what you are going to say

(Example 31)

c) *Giving of content followed by the provision of procedural information (i.e., TT1-TT2)*

- TT: at that time that was some time around nineteen twenty nine nineteen thirty at that time the world was going through a great depression and in America many people were jobless do you see the people just now were all queuing up for food

(Example 32)

*d) Provision of procedural information followed by the giving of content
(i.e., TT2-TT1)*

- TT: okay
So far let me recap what do you mean by it is a bit
of everything
okay
two things he was interested in making Russia
powerful then he was also interested in making
himself more powerful

(Example 33)

*e) Provision of procedural information followed by the teacher's response
(i.e., TT2-TT5)*

- TT: Let's hear your opinion opinions first
here he is thinking it is not two different things on
a meter a range

(Example 34)

2) Teacher explanation and questioning pattern

There were four variations of this type of pattern:

a) Giving of content followed by the asking of closed question(s) (i.e., TT1-TT3)

- TT At this point let us examine collectivisation
according to Stalin's collectivization
Now
one of these people who went around to the Kulaks
Now
TT who are the Kulaks

(Example35)

*b) Provision of procedural information followed by the asking of (a) closed
question(s) (i.e., TT2-TT3)*

- TT: the answer is there on page twenty nine if the
MCP keeps on organizing strikes
what will the government do

(Example 36)

c) Giving of content followed by the asking of an open question(s) (i.e., TT1-TT4)

- TT getting the people's cooperation winning the
winning the support is important this something you
cannot get by just by simply being harsh if they had
pointed a gun at your head and asked you to work
Yes
you might still work
But
how many guys can you pull out in the long term

(Example 37)

*d) Provision of procedural information followed by the asking of open question(s)
(i.e., TT2-TT4)*

- TT: now let me go on to propaganda
Okay
I think your group also did propaganda
Okay
TT: what is propaganda
what is propaganda

(Example38)

3) Teacher questioning pattern

These patterns, of which there were nine varieties, only involved the teacher's participation in the interaction.

a) Closed question(s) followed by the giving of information (i.e., TT4-TT1)

- TT: you know
that it helps a lot more to have a/
chinese representative and again businessman as
what James pointed out businessman

(Example 39)

b) Closed question(s) followed by the provision of procedural information (i.e., TT4-TT2)

TT: what kind of government did they set up Eddie
you answer
look for the answer
quick go to five

(Example 40)

c) Closed question(s) followed by open question(s) (i.e., TT3-TT4)

TT: what is the meaning of revolution
what is the meaning of revolution
is it only [change or]

(Example 41)

d) Closed question(s) followed by the teacher's response (i.e., TT3-TT5)

TT: the Straits produce
can we include as you say spices ah bird's nest
camphor tin
Alright
All these were goods that were in demand in China

(Example 42)

e) Open question(s) followed by the giving of information (i.e., TT4-TT1)

TT: what do you think is the difference in mentality
somebody who is at the base
Okay
I have visited and I am waiting
Okay
And
then the communists were in various pockets in
the countryside

(Example 43)

f) Open question(s) followed by the provision of procedural information (i.e., TT4-TT2)

TT: why is it that the communists were failing in the
support of other areas
you need to make the direct contrast most of the time
too you don't want to force your argument through
any other

(Example 44)

g) Open question(s) followed by closed question(s) (i.e., TT4-TT3)

- TT: describe the Japanese administration
talk about how the Japanese controlled Singapore
and Malaya
describe the government
you can give me one one information enough
how did they control Singapore and Malaya
what do you call the names given to Singapore
what is the name given to Singapore

(Example 45)

h) Multiple closed question(s) (i.e., TT3-TT3)

- TT: can you assess
Is it possible
they both had
Ah
revolutions
look at how both the countries are today

(Example 46)

i) Multiple open question (s) (i.e., TT4-TT4)

- TT: ...something you cannot hold and measure
what is trust
what does it mean
what kind of effect

(Example 47)

4) Teacher questioning or provision of procedural information, followed by a student's response pattern.

There were five variations of this pattern as indicated below:

a) Closed question(s) followed by student's predictable response (i.e., TT3-ST1)

- TT: what is the meaning of this word quick
To Nipponise the people means what
ST: To Japanise the people

(Example 48)

- b) *Closed question(s) followed by a student's unpredictable response (i.e., TT3-ST2)*

TT: were they autocratic
ST: ...a bit more bent towards

(Example 49)

- c) *Open question(s) followed by a student's unpredictable response (i.e., TT4-ST2)*

TT: what is the function of the straits produce in the whole trade
Ali
ST: because
ah
the Chinese were not interested in the manufactured goods they were but interested in from British exchange. ... goods for spices and tried to trade with ... for these spices

(Example 50)

- d) *Procedural information followed by a student's predictable response (i.e., TT2-S1)*

TT: what do you call the military police name
Mei Ling
ST: Kempeitai

(Example 51)

- e) *Procedural information followed by a student's unpredictable response i.e., (TT2-ST2)*

TT: succession dispute
Do you think you want to bring the succession dispute in here
ST: Ah
He managed to be managed to
Ah
sort of something like debt slavery

(Example 52)

5) A Student's response followed by the teacher's reaction pattern

The following are variations of the student response pattern that stimulate a reaction by the teacher

a) A student's predictable response(s) followed by the teacher's response (ST1-TT5)

- TT: Name
how did the Japanese use terror
give me one example enough
ST: whoever spoke against the Japanese will be killed
TT: very good
whoever spoke against the Japanese will be/
executed

(Example 53)

b) A student's predictable response(s) followed by the teacher providing procedural information (ST1-TT2)

- TT: yes name
ST: He introduced many reforms
TT: where is it written
you must focus on the extract first
okay
it is very important for stimulus question that you
focus on the extract first or whatever given to you

(Example 54)

c) A student's predictable response(s) followed by the teacher's closed question (ST1-TT3)

- TT: very good *Poh Choo*
All the rubber trees were destroyed by whom
ST: Japanese
TT: By the Japanese or the British
ST: British

(Example 55)

d) A student's unpredictable response(s) followed by the teacher's response (ST2-TT5)

- TT: define what you mean by natural
ST: I think
natural means not
Ah ah
it is not so dictated by any
TT: controlled

(Example 56)

e) A student's unpredictable response(s) followed by the teacher asking an open question (ST2-TT4)

- TT: is it a good thing
ST1: -No
ST2: -because
the revolution fail before they can succeed
TT: what about Japan
what about that

(Example 57)

f) A Student's unpredictable response(s) followed by teacher asking a closed question (ST+TT3)

- ST: revolution is a lack of evolution
TT: -whereas evolution having planned can be/

(Example 58)

6) Teacher response pattern

In this pattern there were seven variations:

a) The Teacher's response (s) followed by the provision of information (TT5-TT1)

- TT: you are trying to say that
Ah
the best way in which you can prove to be a good
government is when you are able to get the feel of

the ground and in this case the peasants if you can
Do something for them while other people have not
done anything then you are worthy candidate for
me to consider
Is that why also some of the kmt troops actually
defected
alright
To the communist side that also turned the tables
alright
against the Kuomintang

(Example 59)

b) *The teacher's response(s) followed by the provision of procedural information (TT5-TT2)*

TT: communist countries you are talking about the
communist countries
ah
long term effect cold war capitalism versus
communism
okay
when we do this you are doing your revision

(Example 60)

c) *The teacher's response(s) followed by the asking of closed question(s) (TT5-TT3)*

ST: Tin mines to the port tin mines to the port
TT: Tin mines to the port tin mines to the port
what to the port
ST: the tin

(Example 61)

d) *The teacher's response(s) followed by the asking of an open question (TT5-TT4)*

ST: It looks like evolution involves only one party
TT: evolution involves one party
what do you mean
In the sense

(Example 62)

e) *The teacher's response(s) followed by (a) student's predictable response(s)*

(TT5-ST1)

- TT: President such as the Sultan
ST: No
the Sultan as the President
TT: okay
yes
the Sultan as the President
ST: two Chinese representatives

(Example 63)

f) *The teacher's response(s) followed by a student's unpredictable response(s)*

(TT5-ST2)

- ST: I mean
He emphasize on the residential system the whole
extract is talking and examining on residential
system in Malaya and both Malaya and Perak the
states of Malaya and Perak
TT: you are talking about politically here
ST: politically economically
Ah
TT: okay
that is something you have offered actually how
it goes from Perak and Malaya example
ST: He is promoting promoting

(Example 64)

g) *The teacher's response(s) followed by a student initiating more talk (TT5-ST3)*

- TT: ah
I agree we agree with you
to a large extent bad it was only good in that it was
able to kill off people and that is correct
that is the way to write
SS laughter
ST1: I would say it actually benefit the red army
because
If the peasants know that only the soldiers would
so
actually they actually

(Example 65)

7) **Student responses followed by the teacher's negative reaction pattern**

There was only one variety of this pattern, namely (ST1-TT7) as illustrated here:

- TT: Saiful did the British consult the local Malays
ST1: no
ST2: half half
TT: no
there were the three problems
you look at page you have your textbook you look at
page - five and six.

(Example 66)

8) **Student initiating talk to the teacher pattern**

There were four variations of the students initiating talk to the teacher, namely:

a) The teacher giving content followed by a student initiating talk (TT1-ST3)

- TT: they could accept the change
you see
they wanted to go back to the old ways of course you
will talk of such groups there was a revolution
but
there were lots of stumbling blocks on the way
Ah
when we talk about revolution long term and short
term causes and short term and long term effects
ST: Mr Name
TT: yes
ST: can you add to the definition of revolution that it
involves no can you add to the definition of
Ah
evolution that it involves the adaptation the adapting
Of ah ah what

(Example 67)

b) The teacher provision of procedural information followed by the student initiating talk to the teacher (TT2-ST3)

- TT: you can look at your notes
but
it will not give you anything much what is important
Is chapter thirteen we are going to use the notes and
see whether
ST: teacher what's the question

(Example 68)

c) A student initiating talk to the teacher followed by the teacher's response (ST3-TT5)

- ST: someone said that Japan had a very rapid revolution
do you think evolution goes step by step with
revolution I don't think so
TT: for Japan it is rapid revolution

(Example 69)

d) A Student initiating talk to the teacher followed by the teacher asking (a) closed question(s) (ST3-TT3)

- TT: when we talk about Japan talk about Japan
ST: No
Reformation
TT: there was/
ST: there was reformation

(Example 70)

9) Peer talk pattern

There were four varieties of peer talk patterns and these included:

*a) A student initiating talk with peers followed by their response
(ST5-ST4)*

- ST1: -revolution
is like
this whole big thing
but
When you reform it is just making changes
- ST2: the government did not change
but
it was the policies that were changed

(Example 71)

*b) A student's predictable response followed by the initiation of further talk
(ST 9 – ST11)*

- ST1: basically you are expected to ... benefit the army
right or not
- ST2: but...
- ST3: it did not benefit the army
- ST2: Why

(Example 72)

*c) A student's unpredictable response followed by the initiation of further talk
(ST8-ST5)*

- ST1: it isn't even steps
I think
I think
it is even slower something then a step by step
- ST2: it takes a few hundred million years

(Example 73)

d) A student initiating talk with peers followed by another student or the teacher responding (ST11-ST9/TT4)

- ST: the (the) Dutch still were not like infringing on the sovereignty of the state like what the British did because they were only getting help from the outside they didn't go in and shift the positions
- TT: Ah
Alright
So
how then shall we go by the Malay custom of installing the ah
the rightful ruler (or should or has) British a part to play in all of this

(Example 74)

10) Other types of talk pattern

There were five varieties of this pattern of talk, namely:

a) A presentation by a student followed by the provision of procedural information (OT2 - TT2)

- SS: as you can see from the source is taken from the magazine Thai airways international which could be for the tourists to know that the king from Thailand is a grand king and to avoid suspicion from the tourists that he is influenced by the westerners that is why the picture is taken for the Picture for the thai magazine is is on his own tradition the picture on the left look more like a rich merchant which is what he thinks and I personally the second picture look like the guy under one roof Yusof
- TT: okay the last comment you should not put in writing but you can say but he had made some good point the point to quote is another level look at the two photograph and the group has correctly summarized very well the one taken from the Thai international magazine

(Example 75)

b) A presentation by a student followed by the teacher asking (an) open question (s) (OT2 – TT4)

- ST: the peasants gave the government a certain amount of output as the tax and um then they could sell the extra crop that they grew for their own private profit so this was an incentive and ah he hoped that the food production would rise which it did by nineteen twenty six to increase world war one level
- TT: what do you think was the main reason for the increase in production

(Example 76)

c) A presentation by a student followed by the teacher asking (a) closed question(s) (OT2-TT3)

- SS: Industries were nationalized industries were important and ah they were key economic enterprises which helped the country to function properly
- TT: what are the heavy industries

(Example 77)

d) A presentation by a student followed by the teacher's reaction (OT2-TT1)

- ST: ah crops grains were seized by the government So obviously the peasants had to resist so what they was did was to destroy their life stock and then there less food and there was famine
- TT: Famine in 1931

(Example 78)

*e) A presentation by a student and the initiation of talk by a peer
(OT2-ST5)*

- ST1: Stalin's economic policy the situation there was
still very backward and he
Ah
wanted to keep the standards of other advanced
countries and
so
he turned to rapid industrialization
because because
he wanted to strengthen the military faster with
communism
ST2: (aside) communication

(Example 79)

It must be noted, that in addition to these, other interactions did occur but the combination of the different types of talk within these could not be categorised as belonging to one of these ten types, nor did the interactions occur in consistently distinct ways and/or they happened very infrequently. For example, one of the very unusual interactions was the case of (TT5-ST5) where student overrode and cut short the teacher in the midst of a class discussion. Such an occurrence is very rare in Singapore classrooms and would be deemed to be culturally inappropriate. Other rare interactions included: The teacher giving procedural information followed by a closed response (TT2-ST1); teachers and students verbalising followed by talk off task (OT1-ST4); talk off task followed by talk to peer (OT4-ST4); a formal presentation by a student followed by the students engaged in off task talk (OT2-OT4), a teacher's response followed by verbalisation (TT5-OT1); talk off task followed by students raising a question or commenting to the teacher (OT4-ST3); and, talk off task followed by the teacher providing content or procedure.

iii) Critical Episodes

To address the third research question, the next step undertaken was to identify any 'critical episodes'. Critical episodes were those interactions where a) teacher-talk and b) student responses appeared to involve talk that focussed on historical thinking processes. For an interaction to be identified as a critical episode, it needed to be obvious from the transcripts that the teacher was in 'contact' with students. It was apparent because there was evidence of implicit dialogue (as in the concept of 'voice' described in Bakhtin's theory on the dual-voicing and polyphony)³ or because of a dialogue between the students working alone and/or with the teacher showed that they were engaged in historical thinking such as through the use of "exploratory" talk. A further in-depth analysis was undertaken of such episodes to explore the interaction patterns, pedagogical strategies used by teachers at these times and the other contextual features that seemed to promote their occurrence.

3.4.3 Types of Analysis

Once identified, the percentages of teacher-talk (TT1-TT7), student-talk (ST1-ST5) and other types of talk (OT1 – OT5) in the twelve history lessons (lessons I-XII) were calculated. Next the proportion of the different interaction patterns that occurred in the history lessons was determined. Finally, a qualitative analysis of these was undertaken so that critical episodes (i.e., when teachers and students appeared to

³ Knoeller (1998) explains Bakhtin's theory of voice in his discussion of how voices and voicing enter the writing and talk of students, thus providing another perspective to understanding classroom language events and an analysis of classroom language.

be engaged in historical thinking processes) could be identified and their contextual features described.

3.4.4 Reliability

The assignment of the types of talk and the patterns of interaction were checked to determine reliability. An intra-reliability test obtained by the consistency of self-rating (i.e., agreement reached after coding the same transcript two separate times by a single observer) and an inter-reliability test (i.e., testing coding with a co-coder) were carried out using coefficient formulae described by Croll⁶ to test for consistency in coding.

The percentage agreement reached on inter and intra coding was as follows:

| | Intra Reliability | Inter Reliability |
|-------------------------|-------------------|-------------------|
| Nature of talk | 88% | 89% |
| Patterns of interaction | 95% | 90% |

By their very nature, being based on high inference coding, the reliability of the identification of the critical incidents required an alternative approach. Two trained raters were given four transcripts and they were asked to highlight “critical episodes” in which the interaction between the teacher and students seemed to reflect historical thinking. The results from the two raters were then tested against the researcher’s ratings. The intra-rater reliability was 85%. The indicators used to identify critical episodes included:

⁶ Croll (1986, p. 152)

- i) When the teacher appeared to establish 'contact' with the students through an 'implicit' dialogue. During such incidents the teacher's 'voice' seemed to be mediating between the historical past and the present in order to establish 'contact' with the students. To do this the teachers used aspects of meta-communication (e.g., hesitation markers, thinking fillers, discourse and pragmatic markers).
- ii) When the teacher and the students together, or the students working with their peers, were engaged in dialogues that reflected historical thinking and interpretation (e.g., showing evidence of analysis, synthesis, empathy and hypothesising). Once again in interactions such as these there was a greater use of meta-communication, hesitation markers, discourse and pragmatic markers, thinking fillers and pauses, and, change of direction. There were also instances of exploratory talk. Exploratory talk appears to be those interactions which involves talk about evaluating and interpreting information, asking appropriate and searching questions, drawing conclusions or inferences from evidence, making sensible conclusions, seeing things from the point of view of others, setting up hypotheses, raising new questions, challenging issues, contradicting issues, extending and qualifying statements by drawing on other evidence and adding to shared knowledge by referring to own experiences.

The following chapters, four, five, six and seven, report on the findings of the analysis of data. Chapter four reports on the types of talk that occurred in the classroom: teacher-talk (TT1 – TT7); types of student-talk (ST1 – ST5); and, other types of talk (OT1 – OT 5) in the twelve history lessons (lessons I – XII). Chapter

five describes the patterns of interactions that occurred and chapter six examines the critical episodes. Finally, chapter seven provides a summary of the findings and presents implications for history teachers and curriculum planners.

CHAPTER FOUR

Nature of Talk

4.1 Introduction

Chapter four reports on the findings from the data analysis on the nature of talk in the history classrooms in Singapore. In this study it was determined that classroom talk was comprised of three types and they are, teacher talk (TT), student talk (ST) and other talk (OT). Within teacher talk, there were seven forms. They include those occasions when the teacher gave content and information (TT1); provided direction or stated procedure (TT2); asked a closed and inductive question (TT3); asked an open-ended and discursive question (TT4); accepted ideas and extended a response (TT5); explicitly rejected ideas (TT6); and, disciplined students (TT7). With student talk there were five forms namely: when students responded to the teacher in predictable ways (ST1); when students responded to the teacher in unpredictable ways (ST2); when students initiated talk with the teacher (ST3); when students responded to each other (ST4); and, when students initiated talk with other students (ST5). There were also five other types of talk. These included when the teacher verbalised while writing on the board or when a student verbalised while doing a writing task with a group of students (OT1); when a student made a formal oral presentation ⁷ (OT2); when students were engaged in electronic talk (OT3); when teachers and students were engaged in talk

⁷ See Barnes et al. (1986, p.72) for a discussion of this concept.

which was 'off task' (OT4); and when a student switched from English to his or her mother tongue (OT5).

4.2 Nature of classroom talk

As can be seen in Table 4 below, the mean scores from the twelve classrooms show that teacher talk was the predominant type of talk in all the lessons, representing an average across the twelve lessons of 63% of the total classroom talk. In contrast, student talk directed at either the teacher or other students constituted 28% of the classroom talk. Other talk constituted 8% of classroom talk time.

Table 4

The percentage of three types of classroom talk in the twelve lessons

| | Special Stream | | | | Express Stream | | | | Normal Stream | | | | mean |
|-----------|----------------|-------------|---------------|--------------|----------------|-------------|---------------|---------------|---------------|-------------|----------------|----------------|------|
| | Teacher one | Teacher two | Teacher three | Teacher four | Teacher five | Teacher six | Teacher seven | Teacher eight | Teacher nine | Teacher ten | Teacher eleven | Teacher twelve | |
| lessons | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | |
| Tr.Talk % | 73 | 57 | 50 | 54 | 34 | 65 | 77 | 75 | 56 | 58 | 76 | 83 | 63 |
| St.Talk % | 7 | 44 | 50 | 30 | 41 | 30 | 20 | 16 | 34 | 35 | 17 | 14 | 28 |
| OT% | 19 | 0 | 0 | 15 | 25 | 5 | 2 | 9 | 9 | 6 | 8 | 3 | 8 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Further, it was apparent that there were variations in the forms of talk (TT, ST or OT) according to the teacher, stream (Special, Express and Normal) and according to the pedagogy adopted. These variations are described in what follows.

4.3 Teacher Talk

This section provides a description of types of teacher talk which occurred in the history classrooms observed in this study. Firstly, it describes the seven types of teacher talk, and then it examines these with regard to teaching style, stream and pedagogy.

Table 5

The percentage of types of teacher Talk in the twelve lessons

| Lessons | Special Stream | | | | Express Stream | | | | Normal Stream | | | | Mean |
|----------------|----------------|-------------|---------------|--------------|----------------|-------------|---------------|---------------|---------------|-------------|----------------|----------------|------------|
| | Teacher one | Teacher two | Teacher three | Teacher four | Teacher five | Teacher six | Teacher seven | Teacher eight | Teacher nine | Teacher ten | Teacher eleven | Teacher twelve | |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | |
| TT1 | 49 | 47 | 18 | 11 | 15 | 8 | 39 | 28 | 19 | 28 | 32 | 32 | 28 |
| TT2 | 30 | 15 | 10 | 27 | 56 | 38 | 19 | 20 | 47 | 22 | 20 | 27 | 27 |
| TT3 | 3 | 11 | 20 | 15 | 8 | 20 | 9 | 1 | 3 | 17 | 26 | 24 | 13 |
| TT4 | 10 | 6 | 14 | 9 | 3 | 6 | 10 | 11 | 7 | 3 | 3 | 5 | 8 |
| TT5 | 8 | 22 | 38 | 38 | 18 | 26 | 21 | 39 | 22 | 24 | 8 | 5 | 22 |
| TT6 | 0.1 | 0 | 0 | 0 | 0.3 | 2 | 1 | 0.6 | 1 | 1 | 5.4 | 4 | 1 |
| TT7 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | 1 | 3 | 5.4 | 4 | 1 |
| Total % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Where TT1=giving content; TT2= provides direction; TT3= closed & inductive questions; TT4=open-ended & discursive questions; TT5= accepts ideas; TT6 explicitly rejects Student's ideas; TT7 criticises student behaviour.

As indicated in Table 5, the predominant types of teacher talk across the twelve history classrooms were: TT1- providing content and information (28%); TT2- providing direction or stating procedure (27%); and TT5 which related to acceptance

and extension of the students' responses (22%). The asking of closed questions, TT3, occurred less often (13%) and the asking of open-ended questions, TT4, made up only 8% of teacher talk. There were very few explicit rejections of students' answers (TT6=1%) and very little talk used to discipline students in class (TT7=1%). However, there were individual variations in these results, which in turn seemed to be determined by the style of the teacher, stream in which the teacher worked and/or the pedagogy employed.

4.3.1 Teacher providing content and information (TT1)

As indicated in Table 5, the most common type of teacher talk was the giving of content and information TT1 (mean =28%). It also can be seen from Table 5 that there is a difference in the distribution of TT1. Lessons I and II from the Special stream had 49% and 47% of TT1, is in contrast to lessons III and IV which had only 18% and 11% respectively. Therefore, although of the same stream, different teachers using a different pedagogy resulted in a marked difference in the production of this type of teacher talk. In a similar way, within the Express stream, lessons VII and VIII had 39% and 28% of TT1, which was distinct from the occurrence in lesson V and lesson VI which had 15% and 8% of TT1. There was less difference in the Normal stream, lessons XI and XII which both had 32% of TT1 and lessons IX and X which had 19% and 28%. The differences that occurred within the streams may be attributed to the different pedagogies employed and to the distinct teaching styles of the teachers. A closer examination of the discourse of the teacher giving content also shows a distinct difference in the quality of talk. This was especially so with regard to the Special stream lessons I and II compared to Normal stream lessons XI and XII.

In lessons I and II, the teacher provided input in various forms. This was to prepare the students for a challenging group task before a teacher-led discussion. The most important way by which the teacher provided this input was through the giving of content information. It also appeared that the talk the teacher used was more dialogic in nature and one that engaged the students in historical thinking. This appeared to be the style of the teacher in both the lessons. The exchanges were longer and the TT1 involved the use of meta-statements, discourse markers, hesitations, change of direction in talk, thinking fillers and pauses. These were indications that the teacher was trying to establish meaning with the students through a process of interpretation rather than mere transmission of information. Wertsch (1991, p.67; p.93) refers to this form of exchange as the interaction between the “inner thinking self” and the “outer speaking self.” When giving information (TT1), the teacher was keeping “in touch” with the students covertly. This is referred to as the hidden curriculum by Stubbs (1983). The use of the various pragmatic markers, thinking fillers and pauses are cognitive signals that thinking was occurring. An example of this is given in the example below.

*TT Now
the Japanese controlled most of the cities and the
ports
But
the country side area was more or less left
untouched
because
they didn't have the manpower to control these
Areas
So
in other words
you have the when the Kuomin when the forces
retreated to Chang Ching what was left was that
the communists began to fill up
Alright*

those places
Ah
in the country side
Alright
So
in other words
you have the city here the country side some of
the Communist Guerillas were there and then
another city this part the Communists were
in other words
this whole idea of how the Japanese were in the
Islands
Alright
and in this vast sea islands in the vast sea of
communists
Alright
pockets of communists here and there
can you picture that

(Example 80)

The transcript in Example 80 showed the teacher trying to make sense of and building up an idea about, what had happened in the past through 'cause and effect' as indicated by the use of discourse markers, such as 'because' ... 'so'. This is also indicated by the change of direction, the pauses, the thinking fillers and the re-statements that use evidence from the text. Hence, the teacher appeared to mediate between the text and the students. At the same time the students were involved in the co-construction of knowledge when the teacher used meta-statements, discourse markers and pragmatic markers to involve them not overtly, but covertly in the lesson. At the end of this TTI interaction, the teacher obtained the consensus of the students when he said, '*can you picture that*' and students nodded their heads.

In Special stream lessons III and IV, the teacher and students were actively engaged in the co-construction of knowledge through discussion. In lesson III the students had come prepared for the discussion on the divergent topic of 'Is revolution evolution' as it had been set as a homework task. In particular, Revolution in Russia was the topic of discussion. In this lesson, the students (twenty in number) were seated

in a semi-circle and the teacher was seated comfortably on the top of his table. Thus teacher adopted a rather informal style and he did not seem to exert any tight control over the class but rather allowed for free discussion among the students and himself. The teacher made short relevant statements to challenge the students and it appeared that the teacher and the students were engaged in the co-construction of knowledge. This is shown below in example 81.

TT revolution means a violent change or a system of government in
Ah
historical terms that's what it means it cannot be peaceful it is a violent change
Okay
that is according to historical terms it should not be peaceful violent
Okay

(Example 81)

Lesson IV, by the same teacher, was in some ways a student-centred lesson in that a student presented her project work to the class and the presentation was then used as a stimulus for class discussion. In this lesson the giving of content information represented only 11% of the teacher interactions compared, for example, with procedural talk which made up 27% and the asking of closed questions 15% of the teacher talk. Although the actual giving of content in this lesson by the teacher was brief, it was usually in the form of a summary, comment or an elaboration on a point possibly missed by the students. Sometimes these short summary statements were simply content or content laced with procedural talk. It appears this is how, in this particular lesson, the teacher directed and managed the information in the discussion. It may also be that the teacher used this as a way of establishing rapport with the students

as well. The two transcripts below show a summary and then a summary interlaced with procedural talk:

*TT the kulaks
that is the impact of collectivisation on kulaks
Okay
and the reason why they are opposing they were
obviously having a good time*

*TT' there was no time frame as to how long it was
supposed to last and that was
ah
I stand to be corrected you must give a time frame
not how long it would last
but
it passed away before he could give a time frame
that is when Lenin came in*

(Example 82)

In the Express stream, Lessons V and VI were mainly group work where the students were given the task of comparing two pictures (which were that of King Chulalongkorn). Teacher three went around asking questions in order to generate talk among the groups. The teacher's giving of content was therefore minimal compared to the other categories of talk that he used. He asked more questions than the giving of content. This was especially so in lesson VI. The TT1 talk of this Express stream teacher only occurred when he provided some content in between questions, which in turn he seemed to ask in order to prod and steer students in a particular direction. Overall teacher three mainly used TT1 at the end of a group discussion or after the students had presented their report to the class. It appeared that he used it as a way to substantiate and clarify information that had been missed out by the students. This is illustrated in Example 83 where the teacher provided content and information after the presentation of a report by one of the students.

*TT the judiciary is the place where they would go if
there are any disputes any laws
right
Or if they want to seek any justice they can go to the
courts and the courts will decide so in a democratic
country
ah
the judiciary is independent they act on their own
okay
you have completed the twelve words*

(Example 83)

There was some similarity in the pedagogy adopted by Special stream teacher one and Express stream teacher four which may account for the closeness in the proportion of TT1 used in these two classes. In lessons VII and VIII, the Express stream teacher, like the Special stream teacher in lessons I and II, provided input in various ways, such as through the use of videos and CD-ROMs. Generally, however, the teacher's giving of content information was most prominent. In lesson VII the teacher's giving of content was high as the teacher had to teach some difficult historical concepts and events related to the Russian revolution. The input provided in lesson VIII was also to prepare the students for a challenging group task. The quality of the TT1 of the Express stream classes VII and VIII were similar to that of the Special stream lessons I and II in many ways except that, as mentioned earlier, the Express stream teacher was dealing with difficult historical concepts and the teacher tried to evoke empathy and to stimulate the imagination of the students through the giving of content. One method the teacher used to give content was to personalise the information and generate historical understanding by putting it in a form that could be understood by the students. In the following interaction, Russia is portrayed as a

woman who is bullied. Example 84 shows how the teacher evoked empathy and imagination through this personalisation, while at the same time providing content.

*TT Russia had a painful memory in the sense that she
was bullied by the rest of the world
So
now
she had to grow up Russia again so that she assert
herself
Shirley
do you agree with that or
do you think that's all nonsense
Stalin basically was a power crazy guy who wanted
To become powerful and full stop and didn't care
whether Russia was strong or not*

(Example 84)

Normal stream teacher five in lessons IX and X and teacher six in lessons XI and XII, although adopting different teaching styles used a similar pedagogy to each other. This may account for the similarity in their use of TT1. Both were concerned with preparing the students for a forthcoming Normal stream examination. While one exerted less control over the students and tried to engineer discussion and historical understanding the other exerted strict discipline and control over the class and was more concerned with transmitting historical information. Both, however, used a form of pedagogy that involved breaking up and simplifying the content so as to 'scaffold' historical information for the students.

The TT1 used by Normal stream teacher six was brief and often interlaced with procedural talk. This seemed to be done to prod, simplify and guide the students in the lesson. The example given below shows the teacher giving content to scaffold information for the students.

TT *okay*
brought great benefit and from there straightaway
from the back of your brain you can bring in
whatever policies whatever reforms that he
ah
had done for Perak
okay
so
okay
anything else
how about this
particularly as a result of the failure that occurred
before his arrival

(Example 85)

In lessons XI and XII instances of the teacher giving content was higher than for the other Normal stream teacher possibly because she exerted a strong authoritative control over the class. It appeared that she dominated the interaction in order to maintain discipline. She also used a teacher-centred pedagogy, possibly for the same reasons and as a way to prepare the students for the forthcoming examination. She used worksheets based on a series of convergent questions and the students filled in the worksheets with the help of the teacher. Similarly, in lesson XII, the same teacher provided worksheets as well as guide notes and again the teacher helped the students to fill in the worksheets as a class. The teacher adopted a fast paced drilling of historical facts. In the words of the teacher, this was done to provide 'quick revision' before going on to the next chapter. Therefore, the teacher provided content information (TT1) using short exchanges in between drills to emphasise and stress information so that it was informative, concise and precise. Transcripts in Example 86 (overleaf) show a series of chunks of information given in between drills.

TT *Guerrillas means members of a fighting group and*
usually they attack the enemies unexpectedly
these are the methods these are the methods that
they use Guerrilla warfare that means they attack the
enemy unexpectedly

- ST *this one important la*
 TT *this is a very important explanation there the notes doesn't give you the textbook doesn't give you*
 So
you just take down this
- TT *the British government was trying to find out who is this party who is this party trying to create trouble with the workers the workers were being used and if the workers were pressured what would the members of the MCP do*
 ST *will kill them*
 TT *the British government find out about the strikes before the government take action what would the members of the MCP do what would they do*
 ST *kill them*
 TT *run to the/ Jungles*
- TT *they believed in equal sharing equal sharing of resources and everything communism is a set of ideas and people who believed in these ideas are called/ Communists*
- TT *the British military administration was started and the British asked the British asked the MPAJA to surrender all those weapons they didn't surrender almost all but some weapons were were hidden in the/ Jungle*

(Example 86)

4.3.2 Teacher providing direction or stating procedure (TT2)

As indicated in Table 5, next to the teacher's giving of content and information, the teacher providing direction and procedure (TT2) was the most frequent type of talk, with a mean of 27%. The distribution of procedural talk in the twelve lessons ranged from 10% to 56%. Occurrences of procedural talk were generally high in Special stream lessons I (30%) and IV (27%), Express stream lessons V (56%) and VI (38%) and Normal stream lesson IX (47%) and XII (27%). TT2 was comparatively lower in

Special stream lessons II (15%) and III (10%), Express stream lessons VII (19%) and VIII (20%) and Normal stream lesson XI. As with TT1, there appears to be a variation across streams, within streams, as well as individual differences. However, overall, the use of TT2 appears to be determined more by pedagogy than stream or teaching style. Procedural talk was often high when lessons entailed complex tasks. This was seen in Special stream lesson I (TT2 = 30%) which involved the use of the computer where the students had to use particular software to engage in electronic talk. Although Express stream lesson VIII also involved the use of the computer, the students used a CD Rom which was less intricate and the procedural talk was thus only 20%.

In Special stream lesson IV, the class had a discussion about a student's presentation of her project work. Procedural talk in this Special stream was relatively high as the teacher made comments on and evaluated the presentation though procedural talk. It also appeared to be a device used by the teacher to evaluate the comments of the other students which served to trigger further discussion. Transcripts to demonstrate this are given in Example 87 below:

- ST *that was one of the objectives in the first place*
 TT *that is why I say you must look you must look at the objectives*
what was the objectives you must look at all points of view
correct
now gather your thought look at the reason for the implementation did they achieve the aims
yes no why give reasons
Okay
you must do that in the examinations don't just give me be very clear
- TT *give general statements analyse what you know first the facts don't make general statements once you make general statements what happens*

*is that you may misinterpret what you have read
Okay
that would cost adjustments it is quite common
among you guys you see one aspect you don't see
All the other aspects*

- ST I thought they burnt all the crops initially
TT Who
ST the kulaks
TT Okay
We'll go on to that Tai Hong will explain*

(Example 87)

Another example of the very high use of procedural talk (56%) occurred in Express stream lesson V. In this lesson not only did the teacher provide explicit instructions on how the group was to examine the historical source he had brought into the classroom, but he also spoke about the procedure for handling questions related to source materials in the forthcoming examination. Again the same teacher in lesson VI provided explicit instructions on how he wanted the group work organised. The transcript below shows the teacher explaining the procedure about answering source-based questions.

- TT what we want you to give is after looking at the
photograph what kind of impression do you get of
Chulalongkorn at another level at a higher level
what is it going to tell you about this man
you follow or not
if you give me pure description from the source you
quote from the source then you are only at level one
that means you have not gone to the next level this
is very good to test your thinking skills to go beyond
this is the new challenge for students next year
if they just quote only from the passage you will
only get one mark level one level but if they go forth
to think further to say that the source are taken the
let me give you an example I told you about XXX
Right*

(Example 88)

In the transcript below, the teacher also provided explicit instructions on how group work was to be conducted:

TT what we will be doing this morning is very simple you will be discussing in your own group your groups have been divided and I will assign the question to you and what will happen is that you will will then number yourself let's say for example group one there are six of you so you number your selves one to six I will assign you let's say for example a group of six I will take number four will jot down on transparency or maybe number two will be the leader or number five will have to present which means everyone of you must be prepared okay

(Example 89)

One of the teachers in the Normal stream also used a high proportion of procedural talk (lesson IX = 47%). This is because the teacher in this lesson had devised a complex way of grouping the students for discussion. As a consequence, she used procedural talk to organise and engineer student participation. This is demonstrated in Example 90 below:

*TT you might want to tell me what is the answer for for instance like
Ah
what are some of the answers or points that your friends might have and you might not you know
you might moreover not see it
Okay
So
I want you to discuss in that way and
Ah
it is a group effort again I can call anybody I want and if your friend cannot answer by all means please help your friend*

(Example 90)

At the same time the teacher also prodded and coaxed students into participation using procedural talk.

*TT Okay
Elsie Elsie wants Razak's group to answer
Okay
could you please put in your own words
Okay
just give a rough idea of what this extract is telling
you or telling all of us just a rough idea*

(Example 91)

In comparison to the lessons described above, the teachers in Special stream lesson II, Express stream lessons VII and VIII used less procedural talk, 15%, 19% and 20% consecutively. Although these lessons involved some procedural talk they did not require as much explicit instruction.

The lesson that had the least procedural talk was the Special stream lesson III. In this lesson the class was engaged in a whole-group discussion and the teacher often used the students' answers as a springboard for further discussion.

A close examination of the procedural talk in the Normal stream lessons (i.e., lessons IX, X, XI, XII) shows how it took on a slightly different function than in the other streams. The teachers in these lessons seemed to use procedure to 'scaffold' or simplify information for the students. For example, the following excerpt shows the teacher managing and slowly feeding information to the students:

*TT where is it written
you must focus on the extract first
Okay
it is very important for stimulus question that you
focus on the extract first or whatever given it you
before you bring your prior whatever knowledge
you have*

TT *Alright*
read the question again I want everybody to read the
Question
Okay
please take note of this the markers group
Listen
[if other than improved economic development
Then
Listen
Okay
other than improved economic development]

TT *underline that*
Non yang communist party before it was called MCP
the old name was Non yang communist party
which year was it formed

TT *Okay*
Alright
I I agree with you
Okay
what James said is this Birch was facing a lot of
problems
because
the person Abdullah was somebody who does not
follow Birch whatever he wants much more easily
Okay
Ah
please take note
Birch is also a very difficult person

TT *Okay*
and how does the residential system will be a
benefit to Malaya in general
Okay
So
I want you to while you are answering the questions
have that in mind because I am going to ask you for
the answer
Okay

TT *the Sultan very good*
Now
have you taken down this
under the Malay consultative council Malaya was
add add words
Ah
add words there
Malaya was divided into how many provinces

(Example 92)

4.3.3 Asking of closed and inductive questions (TT3)

As indicated in Table 5, the distribution of the teacher's closed and inductive questions (i.e., TT3) ranged from 1% to 26%. Generally there was a high proportion of closed questions in all the lessons with the exception of Express stream lessons VIII (1%) and IX (3%) and Special stream lesson I (3%). A consistently high number of closed questions were asked in the Normal stream lessons XI and XII which constituted 26% and 24% of the total teacher talk. There was also a fairly high instance of closed questions in Special stream lesson III (20%) and Express stream lesson VI (20%). Generally, the asking of closed inductive questions appear to be determined by pedagogy, but at the same time the function of the closed questions in the lessons differed in the various streams. The difference is most noticeable when Special stream lesson III and IV are compared to Express stream lesson VI and to Normal stream lessons XI and XII. The Special stream teacher in lessons III and IV seemed to use closed inductive questions as a technique to draw and engage the students in the discussion. Similarly the Express stream teacher in lesson VI used them to move the students along with their task. However, the Normal stream teacher in lessons XI and XII used closed inductive questions as a way to have the students recall information and relevant historical facts in preparation for the forthcoming examinations.

As well as a variation between streams, there was also variation within streams. For example, in the Special stream there was a difference in the number of closed questions asked, with fewer in lesson I (3%) and many more in lesson III (20%). A close examination of these closed questions in this stream showed that the asking of

closed questions served different functions at different moments in the lessons. The teacher in Lesson I used closed questions to enable students to recall information from a previous part of the lesson as the example below shows:

TT *Alright*
what were the three peoples principles
Selina if you can recall
what were some of the three people's principles

(Example 93)

In contrast, the teacher in Special stream lesson III appeared to use a series of closed question to generate talk and to encourage the students' participation in the class discussion. Another strategy he adopted was to ask an open-ended question, then qualify this with a series of closed questions. Again it appeared that he did this to stimulate the dialogue and to enhance the flow of the student talk. Such closed questions also seemed to be used by the teacher to steer the students' talk and therefore their thinking in a particular direction, as seen in the following example:

TT *so*
it is very close to the countries that we have looked
Germany China Japan
what kind of a revolution did they have
did they have an evolution
did they have a revolution or evolution
what about Russia

(Example 94)

There was also a difference in the percentage of closed questions asked in the lessons of the Express stream. While in lesson VI they constituted 20% of the teacher talk, in lesson VIII they only made up 1% of the same. In lesson VI the students were first given a task which commenced with the asking of several convergent questions

typical of those which students are required to answer in their examinations. The questions were as follows: 'Discuss the main steps the British took to prepare Malaya for independence; what prompted British to grant independence to Malaya? Why were the British reluctant to grant independence? What do you understand by the term full independence? Why did Singapore want to merge with Malaya? Why did Singapore leave Malaysia?'

The students, working in groups, were required to refer to the chapters in the textbook as indicated by the teacher for answers. During the group task, the teacher went around providing assistance as required. This the teacher did by asking closed questions to check the students' understanding and to support the students with their task. The teacher also assisted by helping students locate the information in the textbook. The teacher then stressed and reinforced the point for the group. An example of this technique is given below.

- TT* Okay
you have already identified the first step what is the
second step they allow what?
- ST* Chinese
- TT* what is the second step
the member system is what?
the second step they allow the they allow what
yeah
elections
So
the next step would be/
how many elections were there after the member
System
- ST* Two
- TT* two
so
you write down the two years they had the elections
So

(Example 95)

In contrast, in the Express stream lesson VIII the lesson consisted of answering a series of 'how' questions. Hence only 1% of the talk consisted of closed questions and 11% of the teacher's talk involved the asking of open-ended questions. In other Express stream lessons, for example, lessons V and VII, closed questions constituted a small proportion of the teacher's talk, 8% and 9% respectively. As mentioned earlier, in Express stream lesson V, which was mostly a group activity, the main form of teacher talk, as mentioned earlier, was procedural talk (56%) and the closed questions were asked as the teacher circulated to provide some help in the progress of the task. Closed questions were also asked when the teacher made some comments at the end of the lesson after the students had presented their work to the rest of the class.

In Normal stream lessons XI and XII the closed inductive questions appeared to be used to test the students' recall of information and for the drilling of facts in preparation for a forthcoming examination comprised of a set of objective questions on the facts of history. The teacher used work sheets and the students worked with the teacher to fill in historical facts in the blanks that appeared on them. The teacher did this by providing content followed by quick paced drills to test these facts. The transmission of important facts was conducted through the Initiation-Response-Evaluation (IRE) cycle of questioning. Through this method, the teacher broke up and simplified information in order to help the students. This form of questioning is usually accompanied by a process of revoicing either by the teacher or the teacher with the student/students (Cazden et al. 1972). The revoicing could also be in the form of a chorus response from the students. An example from one of these lessons in which drilling in of facts was undertaken using the IRE cycle is demonstrated below:

TT *which parts of the world are today under military Government*
military the word military refers to/
ST *army la [army]*
TT *[[army]] army*

TT *Malaya was called new/*
ST *new Malai*
TT *what is the meaning of new Malai*
ST *new Malaya*
TT *new Malaya*
okay

TT *what what was the issue*
what was the problem
ST *Citizenship*
TT *Citizenship*
ST *[equal citizenship]*
TT *[[equal citizenship]]*
rights was one of the main problems the Malays
Objected
what was another problem^ with regard to the sultan
STs *loss of power*
TT *loss of power*

(Example 96)

Sometimes when providing this information, an open-ended question was first asked, and then it was qualified with a closed question and sometimes simplified further by the use of filler⁸. An example is given below to demonstrate how the teacher used closed questions to simplify and scaffold information.

TT *very good Ah Leng*
China
why do I call them communist countries
who are the communists Daniel
who knows

⁸ A filler is a closed pseudo question which the teacher asks with a rising tone to denote that an answer is required. It is usually used by teachers in drills.

TT *highlight that highlight that
Nan yang communist party was started to spread
communism a set of ideas ideas that the MCP
Li Li
what happened in nineteen thirty
Li Li
what happened to the Nan yang Communist Party in
1930
it was reorganized and called/*

(Example 97)

Within the Normal stream there was also a difference between Lesson IX where closed questions represented 3% of teacher talk and lesson XI where the proportion for the same was 26%. In lesson IX the teacher used a complex strategy of coaxing members of the various groups to pose questions. Thus the teacher asked fewer questions and there was a comparatively greater proportion of students initiating talk and responding to their peers. In contrast in Normal stream, lessons XI and XII where a large number of closed questions were asked, often the teacher would first call on a specific student before posing the question.⁹ The Normal stream teacher appeared to keep the class in order by adopting such an approach, for example:

TT *Zarinah
can you tell me whether the MCP was openly
attacking the government*

(Example 98)

⁹ It was observed that there was a difference in posing a question before calling the name of the student and calling a name before posing a question. When the former method was used it was to test the student's recall and to exert control over the students, however, when the latter method was used it is often for the purpose of obtaining a student's opinion.

4.3.4 Asking of open-ended and discursive questions (TT4)

A close examination of the open-ended questions shows some similarity among the teachers in the technique of asking open-ended questions. There were often multiple questions leading from open-ended to closed and closed to open-ended questions. During the asking of such questions the teachers used meta-statements, hesitation, thinking fillers and pauses. This technique appears to be used to stimulate the thinking in the students and to draw them in to the discussion. Refer to transcripts in Example 99 which show multiple open-ended questions leading to closed questions:

TT *what is the meaning of revolution*
what is the meaning of revolution
Is it only [change or]

TT *what about the (the) authority of the Temmengong*
for instance
^^
Do you think he will go all out to sign a contractual
treaty with the Temmengong at that point in time

TT *yeah okay*
Com what sort of money is this
compensation for getting that that land the strip
of land for for being allowed
ah
you know
to build a factory
what money is this

TT *what had happened*
where was the Temmengong's
ah ah
village in the first place

(Example 99)

Similarly in the following example the teacher appears to ask multiple questions to stimulate thought and discussion:

TT *what happens
what is the reason for giving putting them putting
them in some kind of a reserve area
okay
we give you this area and we give you this area*

TT *alright
what are we questioning
whose standards are we using here
Alright
to judge whether this is legal or not then again when
we judge legal or not
is it also a question of ethics here*

TT *now the question is
why does he have to make Russia powerful
besides making himself powerful making Russia
Powerful is just making him powerful
or are there other reasons*

(Example 100)

As indicated in Table 5, the distribution of the teacher's asking of open-ended and discursive questions ranged from 14%, which occurred in the Special stream class, to 3% in the Normal stream class. There were more instances of open-ended questions asked in the Special stream lessons I, (10%) III (14%) and IV (9%); Express stream lessons VII (10%) and VIII (11%); and Normal stream Lessons IX (7%). The Express stream lesson V (3%) and Normal stream lessons X (3%) and XI (3%) however, had the lowest percentages of open-ended questions. Once again, it appeared that generally both the pedagogy and the stream determined the number of open-ended questions being asked.

The largest percentage of open-ended questions (14%) was asked in Special stream lesson III. This lesson involved a class discussion where both the teacher and the students were engaged in the co-construction of knowledge and they were discussing a divergent topic, "Is revolution evolution?" In the three lessons, Lesson I,

VII and VIII where computers and technology, such as video and CD ROMs were integrated in the lessons, they also had a fairly high percentage of open-ended questions, 10%, 10% and 11% respectively. This might be attributed to the fact that the quality of the lesson was different with input coming from various sources and with the lesson involving interpretation of historical facts, empathy and imagination.

Very few open-ended questions were asked in a number of the Express and Normal stream lessons e.g., V (3%), VI (6%), IX (7%), X (3%), XI (3%) XII (5%). In lessons V (3%) and VI (6%) the students were involved in a group task and there was little teacher talk. In lessons X, XI and XII, however, there was more drilling of facts and transmission of information. Only one Special stream lesson (II) also had a low percentage of open-ended questions (6%). This seems to be because in this lesson there was more giving of content by the teacher as he provided input for the group discussion and he also used uptake building on the response of the students. What began as a teacher-centred lesson soon developed into a discussion which was more student-centred as students raised questions of, and responded to, their peers.

A close examination of the open-ended questions in the three streams revealed that their function differed. Most of the open-ended questions asked by the Special stream teachers were multiple open-ended questions that seemed to stimulate and engage the students in the thinking process. When the multiple questions were asked the teacher himself also seemed to engage in the thinking process as seen by his use of thinking fillers, pauses and changes in direction. Although there were one or two incidents of an attempt at multiple questions most of the questions asked by the Express stream teachers were single open-ended questions. For example,

*TT communism believe in violence
why do they why do they resort to violence*

TT what about the communists

TT What is the meaning of the full self government

(Example 101)

4.3.5 Acceptance of student ideas (TT5)

As indicated in Table 5, the highest occurrences of this type of teacher talk appeared in Special stream lessons II (22%), III (38%), IV (38%) and in Express stream lessons VI and VIII which had 26% and 39% respectively. Lower proportions of this type of teacher talk also appeared in Special stream Lesson I (8%) where students were engaged in electronic talk, and Normal stream lessons XI (8%) and XII (5%). As with the other types of teacher talk, TT5 appears to be determined by pedagogy and specifically whether the teacher acknowledges, or evaluates and/or develops a student's reply. It was also evident that TT5 turns were longer when the teacher undertook this last aspect, that is developing the ideas of the student.

TT5's occurred most in teacher-led discussions such as in Special stream lessons II, III, IV and Express stream lesson VIII. The teachers in these discussions promoted and sustained the dialogue with their students through closed and open-ended questions using the students' response as uptake for further discussion. For example, lesson III involved the discussion of the topic, "Is Revolution, evolution?"

The teacher used the students' ideas to build and generate more talk in the classroom, and as such, both the teacher and the students appeared to be engaged in the development of historical understanding. e.g.,

- TT Yeah
what was the good thing during Stalin's time which
Czar didn't do*
- ST Collectivisation*
- TT collectivisation was that good*

(Example 102)

In a similar way to other types of teacher talk, there appeared to be qualitative differences in the way TT5 was manifested in the different streams. For instance, Example 103 below shows a Special stream teacher using a student's response and personalising the historical event in order to evoke empathy:

- ST they tried but they failed*
- TT Yeah
they tried but they failed
Now
before we go to that
I want to take up from where Ah Leng has left off
Okay
He did say that it was necessary let's say that you
you are an ordinary Singaporean you have a shop to
sell food items and somebody comes to your shop
breaks down your glass breaks down your door
took everything that you had and ran away next day
you repair the shop get some money you repair
the shop and started business again they will come
again break down the door take everything they
could punch you in your face they slap you then they
ran away how would you feel*

(Example 103)

In contrast, in the Normal stream the teacher often accepted and acknowledged a student's response, sometimes by simply repeating what the student had said, for example:

TT *what is constitution*
ST *A set of laws*
TT *A set of laws*
and then continue
ST *principles*
TT *principles*
ST *law of the country*

(Example 104)

4.3.6 Explicit rejection of student ideas (TT6)

According to Table 5 there were very few instances that involved the rejection of a students' ideas in the Special stream lesson, although there were more in the Special stream, especially in lesson VI (2%) where the teacher used the IRE technique of questioning. Example 105 below shows explicit rejection of a student's idea.

TT *what is the first step*
ST *the Malayan union*
TT *not the Malayan union*

(Example 105)

Most instances of rejection appeared in Normal stream lesson XI and XII. One example of this is shown below:

TT *why did the Japanese change the name*
Why
why Edmund
why should the Japanese change the name to
Syonanto
ST *it is better*
TT *No*

TT *what is the meaning of military government*
ST *light of the south*
TT *No*

(Example 106)

Although limited, these examples seem to highlight once again how the type of talk varied according to both stream and pedagogy.

4.3.7 Teacher criticises students ideas (TT7)

There were no occasions of any criticism of the students in the Special stream classes and very few in the Express stream classes. There was, however, a small but significantly greater proportion in the Normal stream lessons. Lesson XI and XII had the largest percentage with 5.4% and 4% respectively. It seemed that although attempting to simplify and scaffold information in order to help the students, the teacher at the same time had to work hard to maintain discipline as shown below:

TT *nineteen twenty five*
not nineteen thirty
Mel Ling
nineteen twenty five the Nam yang communist party
was started
Ali
what was the aim of this party
you must be a bit alert I'm reading the notes you
have to be very sharp

TT *please be alert*
Daniel
Okay
this is for Daniel
Now
Guerrilla warfare
Chow Lan
please take down this inside the xxx
Guerrillas
who are Guerrillas

*TT Federation of Malaya
Daniel
you must sit straight
Daniel
Thanks*

*TT the Chinese
very good Elaine
Xxxx
after the war very important take the highlighter I'm
going faster now underline the word very important
after the war
Okay
Sit
don't turn your attention is divided
I'm going bit faster now
after the war is called c post war period*

(Example 107)

4.4 Student Talk

As mentioned earlier, classroom talk is comprised of Teacher Talk (TT 1-7), Student talk (ST 1-5) and other types of talk (OT 1-5). Student talk (ST) comprised 28% of total classroom talk. This was made up of five types, namely the giving of predictable responses to the teacher (ST1), the giving of unpredictable responses to the teacher (ST2), initiating talk to the teacher (ST3), a student responding to another (ST4), and a student initiating talk with another (ST5). Table 6 indicates the percentage and mean of different types of student talk across the twelve lessons.

Table 6

The percentage of types of Student talk in the twelve lessons (%)

| | Special Stream | | | | Express Stream | | | | Normal Stream | | | | mean |
|------------------------------|----------------|------------|-------------|------------|----------------|------------|--------------|------------|---------------|------------|-------------|------------|------------|
| | Teacher one | | Teacher Two | | Teacher Three | | Teacher Four | | Teacher Five | | Teacher six | | |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | |
| ST1 | 19 | 12 | 17 | 20 | 5 | 37 | 25 | 6 | 9 | 38 | 55 | 79 | 27 |
| ST2 | 41 | 25 | 20 | 23 | 0.7 | 7 | 55 | 38 | 24 | 6 | 3 | 4 | 21 |
| ST3 | 14 | 16 | 36 | 33 | 0 | 3 | 10 | 44 | 15 | 17 | 39 | 14 | 20 |
| <i>Total Talk to Teacher</i> | 74 | 53 | 73 | 76 | 6 | 47 | 90 | 88 | 48 | 60 | 97 | 96 | 68 |
| ST4 | 14 | 34 | 12 | 7 | 66 | 47 | 5 | 6 | 35 | 17 | 1 | 0.7 | 20 |
| ST5 | 14 | 13 | 15 | 17 | 28 | 7 | 5 | 6 | 18 | 23 | 3 | 2 | 12 |
| <i>Total peer talk</i> | 28 | 47 | 27 | 23 | 95 | 54 | 10 | 13 | 53 | 40 | 3.8 | 2.7 | 33 |
| <i>St.Talk</i> | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

ST1 = predictable response to Teacher; ST2 = unpredictable response to Teacher; ST3 = initiates talk to Teacher; ST4 = Student responds to another; ST5 = Student initiates talk with other students.

As indicated in Table 6, 68% of the student talk was directed at the teacher and 33% involved interaction with peers. Of the 68% of student talk directed to the teacher, 27% occurred in the form of predictable responses to the teacher's question, 21% as unpredictable responses, and, 20% in the form of questions to the teacher. With regard to peer talk, there was a higher percentage which was made in response to the peers (20%) than was initiated (12%). As in teacher talk, there were variations in the types of student talk that occurred according to the stream in and the pedagogy employed by the teacher.

4.4.1 Predictable response to the teacher (ST1)

It can be seen from Table 6 that Normal stream lessons had generally more instances of predictable responses from students. The highest proportion of predictable responses (ST1) occurred in Normal stream lessons XII (79%), X (38%) and XI (55%). Only in Normal stream Lesson IX was there a small percentage of this type of talk. Express stream lessons VI and VII had higher occurrences of predictable responses of (37% and 25%) compared to the other two lessons in the same stream, namely lessons V and VIII which had 5% and 6% respectively. In the Special stream lesson, predictable responses represented between 12% and 20% of the student talk.

In the main, it seemed that the occurrences of predictable responses were due to the pedagogy employed. Generally there were more predictable responses by the students when the lesson entailed transmission and learning of historical facts. There were fewer such questions in lessons that involved discussion and group activities.

Within the Express stream, both lessons V and VIII had a low percentage of predictable responses (ST1) because of the way the teachers had structured the lessons. For example, lesson V was a group activity that involved very little teacher talk, in fact it was the lowest of the twelve lessons. As such, there was an equally low percentage of predictable response to teacher questions. Lesson VIII was a lesson which involved several "How" questions being asked, and because there were more open-ended questions (38%) by the teacher, there were fewer predictable responses by the students. Similarly, in the lessons where there were active discussions such as Special stream lesson II (12%) and lesson III (17%), there were fewer predictable responses. This is in contrast to the lessons where the teacher was the authoritative figure and directed the

learning process, for example in Express and Normal stream lessons VI, VII, XI and XII.

Lessons XI and XII were based on the transmission of historical facts. The teacher provided simple information about the historical facts possibly as a way of assisting the student to learn them. The teacher then used a high proportion of closed questions, which in turn resulted in predictable responses. It seemed that the teacher did this to exert control over the lessons and as a management technique to maintain order and discipline a difficult class.

The predictable responses of the students in these lessons were brief, sometimes containing just one word or a phrase. The predictable replies also often came in the form of chorus answer or 'scattered replies'. i.e., different answers directed to the teacher in unison. Examples of predictable replies of this kind are shown in Example 108.

- TT But
one very important one which...*
- ST state council*
- TT ...state council which fall under which category*
- ST Political*
- TT Political
Okay
that one is very important*
-
- TT what was another problem^ with regard to the sultan*
- STs loss of power*
- TT loss of power*

(Example 108)

4.4.2 Unpredictable response to the teacher (ST2)

As indicated in Table 6, generally the unpredictable response occurred more often in the Special and Express stream classes than the Normal stream classes. But there were some exceptions to this, as seen in the Express stream lessons V (0.7%) and VI (7%). Although it appeared that the stream to some extent determined the number of open-ended questions asked, it was also apparent that the pedagogy employed by the respective teachers affected the proportion of this type of student talk.

The largest percentage of unpredictable response were made in the Special stream Lesson I (41%), and the Express stream Lessons VII (55%) and VIII (38%). Apart from those lessons noted above (i.e., V and VI), the least number of unpredictable responses were made in Normal stream lessons X (6%), XI (3%) and XII (4%).

In all three lessons (I, VII and VIII) where there was a high occurrence of unpredictable response, either the computer or other mediums such as the video and CD ROM were used in the lesson. The teacher also asked more open-ended questions in these lessons, and therefore, the students provided more unpredictable responses. Not only were there more unpredictable responses, but also the replies of the students were longer and often in the form of exploratory talk. According to Barnes et al. (1986):

...exploratory talk serves the purposes of understanding, giving the pupils an opportunity to reorder their picture of the world in relation to new ideas and new experiences. The exploratory uses of language, both in speech and writing, are important because they lead to understanding rather than mimicry. (p.73)

According to Barnes et al., exploratory talk enables the students to think for themselves. An example of a lengthy unpredictable exploratory response is given in the Example 109 below.

- TT what is your point of contention*
ST what I mean
is that actually this is the internal affairs of the
Malays
Ah
So
it is actually foreign intervention
So
you are just like make any old how make a guy
who has actually same blood links to the past
Sultans and then you just install him
Yeah
It is the (although) he has an older brother but he is
Already
Ah
some sort accepted in there that he is the sultan
already he is recognized by most of the people
Ah
happy at least also by the Dutch which is actually
more of a major power there
So
you are just coming in and interfering with the
foreign affairs

(Example 109)

4.4.3 Students initiate talk with teacher (ST3)

As indicated in Table 6 the proportion of student-initiated talk to their teacher (ST3) ranged from 0% in Express stream Lesson V, to 44% in Express stream lesson VIII. There were differences in the distribution of ST3 both within and between the streams. It also appears that there was variation according to individual teacher differences. For example, students with teacher one 14% and 16%; with teacher two 36% and 33%; teacher three 0% and 3%, and teacher five 15% and 17%. This was however, not the

case with teacher four (10% and 44%) and teacher six (39% and 14%) where the type of pedagogy they employed was more influential.

Two of the classes which had the largest percentage of ST3 (lessons III and VIII) were classes that were engaged in discussion. As mentioned in previous sections, lesson III involved the discussion of the topic 'Is revolution evolution?' In this lesson, the teacher and students appeared to be actively engaged in the co-construction of meaning and knowledge. Lesson IV (by the same teacher) was a student-centred discussion that occurred after a student gave her presentation. Lesson VIII also involved the teacher and students in a discussion which involved historical imagination and empathy. Here, too, students raised questions to the teacher to add meaning to the discussion. In contrast to these lessons, Normal stream Lesson XI, which also had a high proportion of ST3, was a lesson where historical facts were transmitted through scaffolding of information and through fast-paced drills.

A close examination of the results of ST3 shows that there appears to be a qualitative difference in this type of talk used in lessons III, IV and VIII when compared to that of lesson XI. When students raised questions to the teacher in the first three mentioned lessons the student talk seemed to add meaning and to contribute to the discussion. However, when students initiated talk in Normal stream lessons XI, it was to seek clarification of a point that the teacher had raised. In addition, there were also subtle differences in the ST3 talk that occurred in Special stream and in Express stream lesson VIII. In the Special stream the student exchanges were longer and students appeared to use exploratory speech as they tried to develop and construct meaning with the teacher. They also displayed more confidence, verbal dexterity and

social skills in the discussion. This was not the case in the Express stream classes. In the Express stream lesson the exchanges were brief involving just a statement without much development and questions were mainly raised for the purpose of clarification to express empathy and imagination. The transcripts showing these differences are seen in the two examples below. Example 110 is taken from the Special stream students and example 111 from the Express stream:

ST *so so
it means revolution evolution is not is not two
two terms it is something
ah ah
like meter where evolution is one end revolution is
one end
Because
Because*

(Example 110)

ST *but
if let's say that they had been decapitated most
probably they are murdered*

ST *like what they think later they think the end of the
world is coming and all commit suicide
just now the news say
What*

(Example 111)

These examples are in stark contrast to that taken from a Normal stream class:

ST *teacher you write like this how am I going to write*

ST *## we don't understand*

ST *repeat repeat Governor than what*

(Example 112)

There were also differences both qualitative and quantitative within the streams. Special stream lessons I and II had 14% and 16% of ST3, while lessons III and IV had 36% and 33%. It appears that the difference was due to pedagogy. The latter two lessons were class discussions, while the former involved group activities. The greatest difference, however, was seen in the Express stream with the range of ST3 being 0% to 44%. Once again, this appears to be due to pedagogy. In lesson V (0%), the students were engaged in a group task and the teacher then went around checking students' understanding. From the observations made and through close examination of the transcripts, it was apparent that the teacher exerted a strong control over the class interactions and perhaps because of this, the students generally lacked confidence and had difficulty in expressing themselves in English. (Note also that code switching represented 11% of other talk in this class). In contrast, there were more questions raised of the teacher in lesson VIII where there appeared to be greater equality and the students were encouraged to participate, and thus in spite of their language difficulty, they tried to actively contribute.

In the Normal stream lessons IX and X and XII, ST3 represented 15%, 17% and 14% of the talk, which is quite different to the proportion in lesson XI which had 39%. Interestingly, it was in this class that there was the highest category for TT7 (where the teacher imposes discipline on behaviour). In addition, the talk that was initiated to the teacher was often 'off task' talk and as a consequence, much of it was ignored in her attempt to maintain discipline and order. See example 111 below:

- ST teacher#
TT *the sultan was very scared the governor was very important he made all the decisions*
ST *the face also like the Japanese*
TT *(ignores statement)*

(Example 113)

However, lesson XII, conducted by the same teacher was quite different, and there was a much lower proportion of ST3 talk. In this lesson, although the teacher maintained very strict discipline, the lesson was a fast-paced drill exercise and there was much less disruption.

4.4.4 Students respond to a peer

Table 6 shows a high percentage of occurrences of ST4 in lessons II, V, VI and IX which had 34%, 66%, 47% and 35% respectively. There were very low occurrences of this form of talk in Special stream lesson IV (7%), Express stream lesson VII (5%) and VIII (6%), and Normal stream lessons XI (1%) and XII (0.7%). Naturally the category of ST4 was high when the lesson involved a longer period of group work and group activity as in lessons II, V, VI and IX. Although stream did not seem to impact on the occurrence of ST4, it did appear that the quality of student responses differed. For example when compared to lessons V, VI and IX, the students in lesson II responded to their peers by qualifying the previous statement and in this way were able to evaluate, contradict and raise new questions and ideas. In addition, there was more exploratory talk used by these students than by the students in the other lessons as seen in the example below:

- ST K *but
I think
also that the the achievements by Farquhar are are
Are not like monumental or or they are not like
Like big*
- ST D *no but the things those contributions that he made
were vital to the survival of Singapore in its
budding stages*
- ST K *I know
they were they were they were vital but the only
People who would truly realize the importance
would be people at that time and they are all dead
Yeah*
- ST D *But
we have to look back in retrospect and realize
that without Farquhar there would be no Singapore*
- ST K *obviously without Raffles obviously the lack of
popularity now with Farquhar shows that there
haven't been people going back to look at
Farquhar's achievements*
- ST D *they have but the main point that they have that the
main reason why he is not that great is because he
was fired and he was put in such a bad light that
people (ang koh)
laughter
when people like because of the damage to the
reputation that there is no way you can restore the*
- ST M *You are forgetting that when Raffles fired Farquhar
and Farquhar was leaving a lot of people
actually came to the port to see him off*
- ST D *Yeah
But
his reputation was still destroyed what*

(Example 114)

In contrast, the ST4 spoken in lesson V and VI were mainly brief extensions of the previous speaker's response and there were only a few rare occasions when the students contradicted each other. In addition, and because of their lack of language fluency, there was more peer scaffolding. This can be seen in example below:

ST D *and that shows that the did not want to accept the
other people's yah proposal
writing 'revered'*

ST C *what is rever ha*

ST A *rever ah beloved*

ST C *what t is beloved*

ST A *well respected*

ST C *most respected*

ST C *eh high rank high rank officer*

ST G *how do you know that he is a officer*

ST C *because his uniform what*

ST G *but than all kings wear like that*

ST C *you heard my head you go and see you got the That note*

ST F *look at his assistant ah he wears a different kind of
Outfit*

ST G *do you have a That banknote*

do you see the present king some more also

wearing the headdress or not

ST C *because all kings have high rank*

(Example 115)

In addition, some of the ST4 turns in these lessons were spoken in the student's first language (i.e., code switching occurred).

ST C *but he wore*

ST G *...this is called want to laugh wry smile (ah)*

STs *#*

ST A *how do you say*

ST G *wry smile (ah)*

(Example 116)

In Normal stream lessons XI and XII talk among peers was discouraged and therefore there was only a small percentage of ST4 events (1% and 0.7%). This was further exacerbated because the teacher closely controlled the students' responses to

their peers. This appeared to be because of the teacher's attempt at maintaining control and order in the classroom took on a high priority.

Lessons I, VII, VIII and X were teacher-led discussions and therefore less student-to-student interaction occurred. In Special stream lessons III and IV, although the percentage of student response was only 12% and 7%, there was a qualitative difference in the responses. For example, in the following examples the first student initiates talk with her peers and the second and third student responds by raising an hypothesis.

- ST *-revolution*
is like
this whole big thing
but
when you reform it is just making changes
- ST *the government did not change*
but
it was the policies that were changed
- ST *no*
La
it is not government thing a revolutionist change

(Example 117)

In contrast, student response in the Express lessons VII and VIII do appear, but they are brief, as shown in the following example:

ST *threatening*
ST *But*
it is totally different

student initiates talk
student responds

(Example 118)

4.4.5 Students initiate talk to a peer (ST5)

As indicated in Table 6, there were more instances of students responding (20%) then initiating talk with each other (12%) in ST5. Similar to other types of student talk, the occurrence of ST5 seemed to be determined by pedagogy. For instance, the greatest number of instances of ST5 occurred in lesson V which was a group-based activity where students had to compare four source-based materials. After negotiating with each other, the students were required to write their comments on transparencies for projection to the whole class. In order to complete this task, the students initiated talk with their peers. The initiation of talk was spoken in English and Singlish, as can be seen in Example 119 below:

ST D *the people don't want him to they don't want anyone*
like outsiders to criticize him so he wanted to rule
the country alone la
ST C *yeah la so he want to rule the country by himself by*
his thoughts
big man's ideas ah
STs *oh it is big man's ideas*

ST C *translated in Chinese eye translated from Chinese*

(Example 119)

The next lesson, which involved the same students, was also a group-based activity and had only 7% of ST5. The difference seemed to occur because of the type of tasks the group had to complete, namely to give information about a list of concepts and definitions from their textbook. Therefore, the type of the initiation of talk was mainly the reading of the question.

- ST *can anyone find the word Malayan union in the book*
ST *where*
 Ah
ST *including the meaning*
ST *where where*
ST *page what*
 Ah
ST *page two hundred and eight*

(Example 120)

Lesson X, which was conducted in the Normal stream, did have a high proportion of ST5 events in the lesson. The initiation of peer talk happened as aside comments or questions asked in hushed tones. These were often asked so that students could seek clarification from one another, e.g.,

- ST *(aside) Kuomintang and CCP is what*
ST *Chinese Communist Party*
ST *Oh*
 yeah yeah
ST *this is what KMT*
 Ah
ST *no KMT led by Sun Yat Sen*
ST *if he is how can he be a warlord*
ST *He a warlord don't have to go and fight he only has*
 To sit and eat @

(Example 121)

4.5 Other types of talk

Other types of talk (OT) constituted 8% of the total class talk (see Table 4). It was comprised of: OT1- verbalising by either teacher or student whilst writing; OT2- Students giving a formal presentation; OT3 - Students engaged in electronic talk (reading from the screen); OT4-teacher/student off task talk; OT-5 Code switching/speaking in mother tongue.

When this type of talk was examined (see Table 7 below) talking off task (OT4) constituted 46% of the total of other talk, making formal presentations (OT2) 20%, and verbalising during a task (OT1) 18%, code switching (OT5) 7% and electronic talk (OT3) 4% of the other forms of talk. There were, however, as in teacher talk and student talk, variations according to the stream and pedagogy employed.

Table 7

Percentage of other types of talk in the twelve lessons

| | Special Stream | | | | Express Stream | | | | Normal Stream | | | | mean |
|-------------|----------------|-------------|---------------|--------------|----------------|-------------|---------------|---------------|---------------|-------------|----------------|----------------|------------|
| | Teacher one | Teacher Two | Teacher Three | Teacher Four | Teacher Five | Teacher Six | Teacher Seven | Teacher Eight | Teacher Nine | Teacher Ten | Teacher Eleven | Teacher Twelve | |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | |
| OT1 | 5 | 10 | 0 | 0 | 11 | 11 | 50 | 11 | 33 | 17 | 37 | 29 | 18 |
| OT2 | 47 | 0 | 0 | 53 | 22 | 11 | 0 | 22 | 22 | 33 | 0 | 12 | 20 |
| OT3 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| OT4 | 0 | 90 | 0 | 46 | 55 | 76 | 50 | 66 | 33 | 33 | 50 | 29 | 46 |
| OT5 | 0 | 0 | 0 | 0 | 11 | 2 | 0 | 0 | 11 | 17 | 13 | 29 | 7 |
| OT % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

OT1 = Teacher/Student verbalizes while writing; OT2 = student gives formal presentation;
 OT3 = Student engages in computer mediated talk with peer (reading from screen)
 OT4 = Teacher/Student engaged in talk off task; OT5 = Code switching /speaking in mother tongue

4.5.1 When teacher and students verbalised while writing (OT1)

As evident in table 7, the largest occurrence of OT1 was in Express stream lesson VII which had 50%. Other lessons that also had high proportions of OT1 included: Normal stream lessons IX (33%); XI (37%) and XII (29%). There was no verbalisation in Special stream lessons III and IV and only 5% in Special stream lesson I. In this type of talk there was also variation within the streams. While lessons VII in the Express stream had 50%, of OT1 the other Express stream lesson had only 11% of

this type of talk. There were also variations in the Normal stream where lessons X had 17% while the other lessons in this stream represented 29% to 33% of the other types of classroom talk. However, the Special stream lessons consistently showed little if any use of this type of talk. It must also be noted that the variations depended very much on the teaching style of the teacher and the kind of task given to the students. For instance, the students verbalised a great deal when working on the task that required them to write points on a transparency for presentation to the class as in lesson V. For example,

STR *this one wrong spelling*
 STC *which one*
chiefs
ah
 STJ *c-h-i-e-f-s*

(Example 122)

Teachers also verbalised when they wrote on the board, such as in the case of the teacher in lesson VII.

TT *industrialise the country so that Russia will become*
a powerful country
but what was the other main aim
 STs *socialist country*
 TT *socialist country*
to make Russia/
into a socialist country
 STs *into a socialist country*
 TT *'tr writing on board'*

(Example 123)

4.5.2 When students made formal presentation to class (OT2)

Occurrence of OT2 was evident in special stream lessons I (47%), and IV (53%) and Normal stream lesson X (33%). This form of talk occurred in lessons which required students to make formal presentations to the class. The types of presentations varied from students reading from a paper or transparency, as in the case of Express stream Lessons V, to referring to notes and part reading and part using exploratory speech as in the case of the Special stream lessons I (47%) and lesson IV (53%). In this lesson, the students who did the formal presentations had to present their project work to the whole class which was then used as a trigger for further class discussion. The presentation in this Special stream lesson was presented with the student referring only occasionally to his notes as shown below,

ST *The government agreed to pay*
ah
the peasants a certain amount of money and
So
ah
the peasants gave the government a certain amount
of output as the tax and
um
then they could sell the extra crop that they grew
for their own private profit
So
this was an incentive and
ah
He hoped that the food production would rise which
it did by nineteen twenty six to increase world war
one level

(Example 124)

whilst the students in the Normal stream (e.g., Lesson X) read their entire presentation.

4.5.3 When student engaged in electronic talk (OT3)

There was only one lesson, held in the Special stream Lesson I where the students engaged in electronic talk with one another. The quality of this talk was different from the other types of talk that occurred. At the same time it was not written speech and it contained elements and features of oral discourse, such as fragmented speech and incomplete sentences. This is shown in Example 125 below:

ST I think
the Sino Japanese war is important for the communist
victory before the start of the war the CCP were held
up in Yenan after the long march good peasant
support
but
only in Yenan not enough for them to take over China
SinoJap war provided opportunity for them to gain
more support from the peasants important factor in
CCP victory KMT also lost support from peasants due
to its trade space for time policy as they felt KMT was
not doing anything other than retreating not truly
fighting the Japs KMT lost most of its best troops in
Sino Jap war hence its military was not as effective as
it could be against communists CCp was carrying out
Guerrilla warfare and this caused less losses this also
made them more experienced in Guerrilla warfare and
more able to beat the KMT in the Chinese civil war
hence sino Japanese war is a very important factor
for the communist victory

(Example 125)

4.5.4 When the teacher - students engaged in talk off task (OT4)

The occurrence of off task talk (OT4) happened in all the lessons except for Special stream lessons I and III. It often occurred in group work, however, it did vary. It seemed that the variation depended on the style of the teacher.

In Special stream Lesson II and Express stream lesson V and VI the students were engaged in group tasks and the level of off task talk was high. In special stream lesson IV the teacher and students had a chat where the teacher told the class about his illness and his reason for being on medical leave the previous day. Although this was completely off task, it demonstrated a significant level of rapport between him and the students. Similarly, in Express stream lesson VIII the teacher spoke about the need to have a goal in life. He gave an example about how, as a student, he achieved his goal of going to the best Junior college in Singapore and he hoped that his students would be equally inspired to do well in life.

4.5.5 Code switching (OTS)

Whilst there was no code switching in the Special stream lessons there were instances in two of the Express stream classes and more instances of code switching in the Normal stream classes. In the Express stream, lesson V code switching only occurred during group work, however, it occurred in a variety of contexts in the Normal stream. The following shows an example of code switching in the Normal stream lesson IX.

| | | |
|-----|--|-----------------|
| STL | <i>no' never mind</i> | [said in Malay] |
| | <i>La</i> | |
| STJ | <i>Now</i> | |
| | <i>what are you doing</i> | |
| STI | <i>Now</i> | |
| | <i>two marks</i> | |
| | <i>La</i> | |
| | <i>ra'kena four b</i> | [Malay term] |
| STL | <i>four b</i> | |
| | <i>Ah</i> | |
| | <i>no' untuk four b</i> | [Malay] |
| | <i>he wanted the support of the Malays</i> | |
| | <i>sudah</i> | [Malay] |

(Example 126)

4.6 Conclusion

A quantitative and qualitative analysis of the data in the twelve classrooms in Singapore schools revealed that the nature of teacher talk, student talk and other types of talk varied according to the stream and to the pedagogy adopted by the teacher. With respect to stream, the difference in the quality of talk was particularly evident when a comparison was made between that which occurred in the Special stream and the Normal stream classes. The teacher talk in the Special stream lessons involved drawing the students covertly and overtly into the discussion of historical concepts and events, whereas in the Normal stream lessons the teachers concentrated on scaffolding information and transmitting important concepts in preparation for the examinations. The large percentage of procedural talk indicate that they play an important function in teacher talk. One function identified is that the teachers used procedural talk to manage information and giving of content to the students. This they did by using procedural talk to prod as in the case of the Special and Express stream students and to scaffold information in particular in the case of the Normal stream students. As for student talk, there were more instances of exploratory talk in the Special stream students, perhaps because the students were verbally more dexterous. In addition, their speech turns were longer which was in contrast to the student talk in the Normal stream where responses were mainly one word answers. There was also a difference in the nature of group presentations in the different streams, for instance, formal talks by students in the Normal stream tended to be 'scripted' whereas they were more interactional in the Special stream. Another difference was seen in the talk directed to the teacher. In

Special stream classes student contributions appeared to add meaning to the discussion while in the Normal stream classes student directed talk appeared to be mainly for clarification.

It also seems that the pedagogy adopted by the teachers affected the nature of talk. For instance, the talk in teacher led discussions often appeared to be more interpretive. In these discussions, the teachers used meta-communication and voice to reach out and keep in touch with the students. This was quite different from the type of talk that occurred when transmission approaches were used or when the teaching involved drill and recitation. The quality of talk also varied when the teacher provided input in the form of computer-assisted learning, or with the use of CD ROMs and videos. It also varied when authentic materials were used when compared with the type of talk that occurred when the lesson was more textbook and worksheet bound. Finally, the nature of talk varied according to the topics covered in class, so that group discussions involving divergent topics were quite different from discussion about convergent or structured topics.

CHAPTER FIVE

Interaction patterns

5.1 Introduction

This chapter examines the patterns of interaction that were generated in the history classrooms in Singapore as teachers and students were engaged in the teaching and learning of the subject history. The interactions consisted of teacher-talk, student-talk and other types of talk that occurred in patterns that could be categorised in distinct ways.

From an analysis of the data, ten main patterns of interaction emerged, each of which were in turn made up of similar variations of types of talk. Of the patterns that did occur each could be further categorised as belonging to one of three distinct types of patterns of interaction. They were as follows:

- a) Teacher-centred;
- b) Student-centred; and
- c) Patterns centred on other forms of talk.

Once the data was coded, the mean percentage of the interaction patterns in the twelve lessons was calculated. These are indicated in Table 8.

Table 8**Mean percentage of the ten major patterns of interaction in the twelve history classrooms**

| Patterns of Interaction | Mean % |
|---|--------|
| a: Teacher-centred | |
| 1 Teacher 's explanation | 26. 3% |
| 2 Teacher 's questioning followed by student's response | 7. 5% |
| 3 Qualification and extension of Teacher 's question | 6. 8% |
| 4 Teacher 's response to student's response as uptake | 6. 4% |
| 5 Teacher 's explanation leading to questioning | 3. 5% |
| 6 Teacher 's negative response followed by student's response patterns | 0. 1% |
| Sub Total | 50. 6% |
| b: Student-centred | |
| 7 Student's response followed by teacher 's treatment of student's response | 6. 7% |
| 8 Student initiating talk to peer and peer / teacher response | 2. 7% |
| 9 Student initiating talk to teacher and teacher 's response patterns | 2. 3% |
| Sub Total | 11. 7% |
| c: Other types of talk | |
| 10 Interaction of other types of talk | 9. 5% |
| X Other patterns of interaction not categorised | 28. 2% |
| Total | 100% |

As evident in Table 8 above, of the ten major interaction patterns, the most predominant patterns were those that appeared under category (a) Teacher-centred, that is when the teacher played a central role in the classroom. This category constituted 50.6% of the interaction. Of this total, the teachers' explanation patterns made up 26.3% of the total, teacher's questioning followed by a student's response was 7.5%, the qualification and development of the teacher's questioning pattern was 6.8%, a student's response used as uptake by the teacher 6.4%, the teacher's explanation leading to questioning 3.5%, and the teacher's negative response followed by student's response patterns 0.1%. Category (b) student-centred patterns of interaction, only constituted 11.7% of the total. In this category a student's response followed by the teacher reaction represented 6.7% of the total, a student initiating talk to a peer and a response to this by the teacher or a peer was 2.7%, and students initiating talk to the teacher and the teacher's response was 2.3%. Category (c), which comprised patterns in other types of talk, constituted 9.5% of all the interactions. Category X, which comprised all the other interactions that could not be classified as belonging to patterns in categories (a), (b) and (c), constituted 28% of the interaction.

However, these percentages represent mean scores from the twelve lessons and the occurrence of the ten main patterns of interaction, as with the types of talk, varied according to the stream and/or the pedagogy employed. A description of the variations of these patterns is presented and described below using examples from the transcripts.

5.2 Teacher-centred patterns

5.2.1 Pattern One: Teacher explanations

The teacher explanation pattern (TT1-TT1; TT2-TT2; TT1-TT2 and TT2-TT1) occurred 26.3% of the time within the twelve lessons and it occurred in all the lessons. This pattern of interaction showed variations according to both the pedagogy and the stream employed. With respect to pedagogy, for example, there were times when the teachers gave content in lessons with the aid of CDROMs, videos and computers in Special stream (lesson I), and Express stream (lessons VII and VIII). In these interactions they gave lengthy amounts of content. Lengthy content was also fairly prominent in the Normal stream (Lesson XII), but here the teacher transmitted historical information in between drills, fillers and closed questions. Lengthy sequences of the teacher giving content was, however, less prominent in Special stream lessons III and IV which involved mainly class discussions and in Express stream lessons V, VI and Normal stream lesson IX which comprised mainly group activities.

A closer examination of the TT1-TT1 sequences (i.e., the sequences involving the giving of content) in the Special stream Lesson I, Express stream Lesson VII and Normal Lesson XII reveal different ways in which the teachers interpreted the events in history whilst providing content. In the special stream lesson I (shown below) this interaction pattern appeared to be more dialogic in nature and the teacher's talk was marked by tentativeness, constant modification and change in direction, with the occasional use of discourse markers and meta-communication markers such as, 'alright', 'okay' and 'now'. Added to this pauses, hesitation and thinking fillers such

as 'ah' seemed to indicate the teacher was searching his mind in order to interpret the facts and at the same time keep in close touch with the students.

TT *Alright*
The Three People's Principles
ah
and in the last lesson we looked at how he fell far
Short
Alright
in the aspect of giving land to the tiller the tiller is
Harvester
Alright
there was very little regard for
Ah
the peasants welfare in fact some of the landlords
were made
ah
even
Ah
Ah
were made even more powerful
Okay
But
very little reforms were introduced to solve the
plight of the Chinese peasants in the country side
okay

Example 125 (Lesson I Special Stream)

In this example it would seem that as well as the teacher providing content the use of the meta-statements 'alright'; 'okay' served the function of maintaining contact with the student. The teacher was modelling the thinking process (as seen in the hesitation, the thinking fillers and the change in direction) as he explained the predicament of the peasants and his interpretation (as seen in the use of the words, 'in fact' and 'made even more' and 'very little') that the reforms did not solve their plight. Finally, the teacher drew the students into an understanding of his interpretation with the use of the word 'okay'. The contact the teacher made with the students was reflected in their behaviour. They kept eye contact with the teacher and nodded their heads. Duncan (1972) describes this behaviour as a back channel. Further, Mehan

(1979) suggests that when students are engaged in this form of back channel, even though it might seem that the students are passive, they are in a joint dialogue with the teacher.

The Express stream teacher in lesson VII and the Normal stream teacher in lesson XII used a different technique. They interpreted historical events for the students by personalising the information. They used the second person "you" and pragmatic markers and discourse markers to simplify and relate historical events and concepts to the students' own experience to help them make sense of what happened. For example, the teachers said, 'you see...' 'you lost your job...', 'you had nothing...', 'you had to work hard...'. In example 126 given below, the teachers drew on the students' everyday experience of concepts such as the taking of medical leave, reporting sick, working hard and the loss of jobs to explain how the government of the Soviet Union maintained its hold on the people:

*TT you see
everything in the Soviet union at that time depended
on the government all the jobs in the country were
assigned by the government everyone was a
government employee so the minute the minute
you lost your job you had nothing you had nothing
so
life was very bad you had to work very hard you
cannot take medical certificate the way you want
you cannot report sick when you want unless you are
very sick you cannot go on leave*

Example 126 (Lesson VII Express Stream)

In the case of the Normal stream teacher the personalising of information appeared in short stretches and between fillers and closed questions (see example 127 overleaf). Further, it appeared to be used as a way of scaffolding historical information

for the students. The teacher introduced the term government by means of a dialogue with the pronoun 'you'. This appeared to be a strategy the teacher adopted in order to establish contact with the students and to get their attention. It appears the use of 'you' is a powerful tool for interactions between the teacher and the student. The teacher used this strategy even before explaining that 'you' represents the guerillas. She also stressed the point that the guerillas are communists through the use of the filler⁹

'Guerillas are the/...'

*TT under the the government announced
whoever wants to surrender can surrender if you
surrender we will give you we wont punish you
leaflets papers were dropped asking the guerillas
guerillas are the /
Communists*

[/ indicates rising intonation]

Example 127 (Lesson XII Normal stream)

Another form of explanation involved procedural talk (TT2-TT2). These interactions were often lengthy turns when the teacher provided a description of the procedure to be followed by the students. For example, in lesson I the teacher provided a lengthy description about how to plug in and use the computer software. Similarly, in lessons V, VI and IX the teachers concerned described in detail the procedure for carrying out group tasks. In Lesson IV, although the lesson was a class discussion, in the early part of the lesson the teacher spoke to the students about how to answer examination questions. Procedural patterns of interaction also occurred

⁹ the power of the filler in drills will be discussed later in the chapter

frequently in Normal stream lesson XII where the teacher used this to scaffold and manage information by drawing students' attention to certain important facts, e.g.,

TT *No
there were the three problems
you look at page you have your textbook you look at
page - five and six.
five and six are very important it tells you about the
Malays reaction the Malay attitude to the Malay
Union*

Example 128 (Lesson XII Normal stream)

Often the giving of content was laced with procedure, and conversely the giving of procedure with content. This happened most often in lessons where there was a high percentage of teacher-talk such as in lessons I (49%), II (47%) and VII (39%), and in the Normal stream lessons XI (32%) and XII (32%). This pattern of interaction involving the giving of content and the provision of procedure and vice versa (TT1 – TT2 and TT2 – TT1) appeared to be an important device in the management of content, and for the interpretation of historical facts. For example,

TT *I want you to think of these three questions for today
alright
it is on your worksheet
Alright
had had it not been for the Sino Japanese war in
1937 to 1945 the communists would not have
achieved victory in 1949*

Example 129 (Lesson I Special stream)

In the example below when the teacher said, '*I want you to be clear about this point*' he was placing emphasis on an important point that he wanted the students to note.

*TT red army conducted Guerilla warfare in the Japanese
occupied areas these ideal situation for people's war
Now
I want you to be clear about this point*

Example 130 (Lesson I Special stream)

The interweaving of content with procedure can also be seen in the Normal stream class in example 131. Here, it seemed to be used to enable the teacher to stress the importance of a specific historical fact, as compared to other facts, by drawing the students' attention to it. This can be seen for example, when the teacher said, '*I want you to be clear about this point.....*' The teacher also managed and oriented the information and in the case of the Normal stream students this seemed to scaffold the information for them e.g. when the teacher said, '*remember... 'underline that... 'I will repeat ... 'look at this point...'*. See also example 131 below:

*TT can you find the answer please
look for the answer of military government

quick look for the answer on the military
government
what did the Japanese do page two military*

Example 131 (Lesson XI Normal stream)

In the special stream lesson when the teacher said, '*Let's talk about this*' the teacher seems to steer the discussion in certain ways, as illustrated below:

*TT let's talk about this
revolution means a violent change or a system of*

Example 132 (Lesson III Special stream)

In summary, the giving of content and procedure by the teachers in this pattern of interaction involved either interpretation of facts and ideas, which in turn seemed to engage the students in historical thinking processes, or they provided scaffolds to help draw the students' attention to the important aspects of the historical thinking process. The teachers in all the three streams also used various strategies in the TT1-TT1 patterns to engage the students in the learning process. However, while the teachers in the Special stream lessons used dialogic strategies, the teachers in the Express and Normal stream appeared to use more personalised examples that seemed to be used in order to appeal to the imagination of the students.

5.2.2 Pattern Two: Teacher's questioning followed by student's response

In this pattern, the teacher's closed and open-ended questions were followed by the student's responses, both predictable and unpredictable (TT3/TT4-ST1/ST2). The TT3-ST1 pattern where the teacher's closed question was followed by a predictable response from the students formed part of an IRE cycle. The pattern appeared in all the lessons but was especially prevalent in Normal stream lessons X, XI and XII and in Special stream lesson III. In addition, the function of this form of pattern appeared to be different in the two streams. In special stream lesson III it was a device that appeared to be used by the teacher to stimulate the flow of talk, but in the Normal stream lessons, it appeared to be used more as a scaffolding technique and as a device for drilling important historical facts and ideas. These are demonstrated in the two examples below:

In example 133, the class discussion focussed on the concept of revolution. It can be seen that the teacher probed the students and steered the discussion in order that

the students consider and compare conditions in Russia under the Czar and under the coalition Government.

- TT* who was affected the most
ST communists
TT communists talking about society in Russian
who will gain the most
ST the town workers the peasants and the town workers
TT who should gain the most when there is a revolution
the /
ST town workers
TT town workers
and the /
ST peasants
ST peasants
ST town workers and the peasants

Example 133 (Lesson III Special stream)

In example 134, the Normal stream teacher in lesson XI used the IRE cycle as a technique in drilling the term 'New Malaya'.

- TT* what is the meaning of new malai
STs new Malaya
TT new Malaya
okay

Example 134 (Lesson XI Normal stream)

However, there were some occasions, although these were rare, when the teacher's closed inductive question, instead of resulting in a predictable answer such as 'yes' or 'no', prompted an unpredictable response from the students. There was an occurrence of this in Special Stream lesson III. In this example, whilst the teacher's first question on whether the Czar was autocratic received a yes response, the next

question on whether Lenin and Stalin were also autocratic, was followed by an unpredictable response. The example is given below:

TT *was the czar autocratic*
STs *Yeah*
TT *was Lenin and Stalin*
ST *Lenin Lenin*
TT *were they autocratic*
ST *a bit more bent towards*

Example 135 (Lesson III Special stream)

In the following example, the teacher's question (in the form of a filler) '*whereas evolution can be /*' is not filled by the student with the word 'revolution' as expected by the teacher but instead the student ignores it and puts forth an unpredictable response that in revolution people adapt to the situation. It occurred in the form of exploratory talk and demonstrates the confidence and verbal dexterity of this Special stream student.

TT *-whereas evolution having planned can be/*
ST *when we think of revolution is*
like
Ah
the situation is presented to you and
ah
Okay
Like
Ah
the people
because of the situation
you see
adapt to the situation
is that what is evolution
for revolution the people in place and they have this
Ability
you see

Example 136 (Lesson III Special stream)

Another variation in this pattern of interaction was the asking of open-ended questions followed by an unpredictable student response (TT4-ST2). This variation was most

prevalent in Special stream Lessons II, III and IV and in Express stream lesson VII. In the Special stream lessons there were discussions of divergent topics such as in lesson II where students were given an authentic tourist brochure with a picture of Sir Stamford Raffles and a caption. The statement in the caption was that 'Raffles acquired possession of Singapore in 1819'. The students were required to mount a challenge to the term 'acquired possession' and discuss whether or not the credit should go to this one person.

TT Raffles acquired the possession of the island of Singapore in eighteen nineteen how accurate is this statement

Example 137 (Lesson I Special stream)

In the case of Express stream lesson IV, the questions given to the groups for discussion were textbook based and initially appeared to be convergent. However, when the groups met together in a teacher led discussion the talk developed from being convergent to divergent in nature. Examples 138 and the 139 show this development:

Convergent topic

TT I will assign all exercises to you for Alan Mary Ahmad's group you look at chapter seven Japanese policies towards the main ethnic groups and lastly for name name's group you will look at chapter eight the daily life under the Japanese daily life under the Japanese say for name okay for name and name's group I want you to look at chapter nine Okay chapter nine the end of the Japanese occupation both will look together

Example 138 (Lesson IV Express stream)

Divergent Topic

- TT *you have to be fair*
Look
you have to be fair you are a judge please don't
use your emotions
okay
I don't want you to tell me oh I will definitely
believe the locals because they they they must be
right you are the judge even though you feel strongly
that the Japanese were the murderers you cannot
pass a sentence based on hear say you have to
establish the evidence

Example 139 (Lesson IV Express stream)

In addition to the variations described above, sometimes the teachers, instead of asking a closed or an open-ended question, asked a procedural question to elicit a response from the students (TT2 – ST1/ST2). This was especially the case in the Normal stream (e.g., lessons X and XI). It also occurred in Special stream lessons II and III. An example of this is given below. Here the teacher requests the students to 'throw (in) some points...'

- TT *Just throw some points and then the rest of you*
can counter the points or support their points
yeah
ST *ah*
okay
ah
actually we are undecided because there were
factors leading to us believing that it was legal
yet there were some which
ah
made us think that it was illegal for example we
thought it was legal
because (because)

Example 140 (Lesson II Special stream)

In summary, although various types of pattern two appeared in most lessons, the student responses and the function of these interactions varied according to the stream.

5.2.3 Pattern three: Qualification and extension of the teacher's question

The teacher's questioning pattern not only took the form of a single question, as discussed in pattern two, but often the question was developed and qualified by the teacher. He or she gave further content or procedural information possibly to help develop the students understanding of the historical concepts.

One of these variations of pattern two was where the closed question was accompanied by the giving of content (TT3-TT1). This happened predominantly in Normal stream lessons XI and XII. Here the teacher seemed to use questioning to get the students' attention and then he gave the content to emphasise the point. Sometimes in other lessons the question was not in the form of a 'wh' question (as in *what, which, who, when*) but rather was asked using rising intonation (/) at the end of the sentence, in the form of a filler (which the teacher sometimes completed himself). This technique was one often used by the teacher in Express stream lesson V. In this class, the teacher appeared to use this technique to scaffold and drill important historical facts as he circulated around the class during the group tasks. He also provided information about the 1959 elections in Singapore because the students had confused this information with that about the elections in Malaya. He clarified then coaxed the answer from the students and finally drilled it, as shown below:

TT no
that is in Malaya in Singapore
twenty seven forty three out of fifty one

- do they need to get another party to form the government*
yes or no
- ST *no*
 TT *why no*
 ST *they can rule on their own*
 TT *not working on their own because now they are having the what /*
- ST *power*
 TT *the majority forty three out of fifty five this is majority therefore they do not have to get another party to form the government the coalition government means you have more than one party forming the / government right*
explain government next legislative assembly this is something that you have learnt from the time of the straits settlement s up to the very end now we do not call it legislative assembly we call it the wha /
- ST *legislative council*
- (/ = rising intonation)

Example 141 (Lesson VI Express stream)

This pattern of interaction also occurred in the Special stream lessons II and III. It seemed in these lessons the teachers used this as a way of gaining the students' attention and as a means of stimulating thinking. In the example shown below the teacher posed a question, a student responded and then the teacher posed a pseudo-question or a filler to which he immediately gave the answer.

- TT *what about Russia*
 ST *revolution*
 TT *definitely a/ revolution*

Example 142 (Lesson III Special stream)

The other variation of this interaction pattern involved the teacher asking a closed question followed by giving procedural information (TT3-TT2). Once again this occurred often in Normal stream lessons XI and XII, however, it also occurred

frequently in Express stream lesson VI. The same pattern happened very rarely in the Special stream and other Express stream classes. When it did occur, it did so in the form of the teacher posing a question before calling on a specific student to answer. This is slightly different from the other similar pattern (TT2-TT3) when the student is called before the question is posed. In this variation it appears that the teacher uses the technique as a way to drill facts and to test recall.

TT *who are these workers*
Catherine quick

Example 143 (Lesson XI Normal stream)

In the case of Express stream lesson VI, the procedural talk was used to encourage a response. For example, the teacher used it to coax an answer from the students.

TT *why: why the British were reluctant*
is it
this is quite straightforward

Example 144 (Lesson VI Express stream)

TT *something to do with what?*
yes

Example 145 (Lesson VI Express)

At other times, a closed question sometimes led to an open-ended question. For example, in Special stream Lesson IV the teacher started off with a filler and then developed it into an open-ended question. This appeared to be used as a technique to probe and generate thinking in the students.

- TT *why*
how was war communism supposed to help them
- ST *(aside) no*
- TT *why were they not happy with it having a mutiny*
supposed to be very/
why do they have a mutiny
- Pt *It was a worker's strike*
- TT *pardon*
- Pt *It was a worker's strike it was*
- TT *military mutiny it was for military not for you to xx*
if it is for whom then you will say

Example 146 (Lesson IV Special stream)

In the Normal stream lesson XII, however this same pattern appeared to be used as a technique to scaffold information before a response was then elicited from a student:

- TT *one group of people name whom can I going to talk*
about in this chapter
- ST *(aside)MCP*
ah
- ST *the communists*
- TT *the communists*
who are the communists
who knows who were the communists
- ST *MCPMalayan and Malayan communist party*
- TT *who were the communists*
- TT *why do we call them the communists*
- ST *xx*
- TT *yes Name who were the communists*

Example 147 (Lesson XI Normal stream)

Another variation that occurred within this pattern of interaction, and that which is common to large classes in general, and to the Singapore context in particular, is the use of chorus answers. Chorus answers appeared in all the twelve lessons but were more numerous in some Express and Normal stream lessons. The asking of a closed question or filler by the teacher was followed by a chorus (TT3-TT5) from the students. For instance, in Express stream lesson VI, the teacher tried to transmit

historical facts by drilling important facts and concepts based on the students' textbooks and the use of a chorus response was used to emphasise the point that the communist guerillas in Malaya resorted to violence:

- TT they had to go elsewhere and that is when they went
underground underground means went to the
jungles and now they resorted to /
violence*
- STs violence*

Example 148 (Lesson VI Express)

Similarly in the example 149, below, the teacher drilled the term 'trade union' with the students.

- TT yes the workers
so
they joined the what
what do you call that*
- ST the trade union*
- TT the trade/
union*
- STs union*

Example 149 (Lesson VI Express)

A third variation of this pattern was when after an open-ended question was asked the teacher developed and qualified the question by giving further content (TT4-TT1). This happened only in three lessons: in Special stream lesson I, in Express stream Lesson VIII, and, in Normal stream lesson XII.

*TT Did the Sino Japanese war
alright
was that the turning point
alright
with the Kuomintang forces
ah
ah
you know
declined*

Example 150 (Lesson I Special stream)

In Normal stream lesson XII the open-ended question was qualified by the giving of content, a closed question, and filler, which appeared to serve the purpose of scaffolding information. For instance:

*TT what about government
they believed in equal sharing equal sharing of
resources and everything communism is a set of
ideas and people who believed in these ideas are
called/
communists*

Example 151 (Lesson XII Normal stream)

Similarly, in the following example, the same teacher asked a closed question on whether the Malayan Union was a failure or a success to which the student gave a predictable response. The teacher then followed up with an open-ended question on why the Malays refused to accept the Malayan Union. When she failed to get the correct reply from the student, she simplified the open-ended question by turning it into a closed inductive one and asked who objected to the Malayan Union. On receiving the correct response she then asked another open-ended question. This appeared to be another example of the scaffolding provided by the teacher.

- TT *Malayan Union was it a failure or a success Lili
was it a failure or success*
- ST *failure
la*
- TT *why was it a failure Lili*
- ST *because they all not agree
ah*
- TT *who actually resented or objected to the Malayan
union*
- ST *the Malay*
- TT *why the Malays
what was the most problematic issue*

Example 152 (Lesson XII Normal stream)

Another strategy used in the Normal stream, this time in lesson XI, was where the teachers simplified an open-ended question by following it with a number of closed questions. In doing so, she simplified the difficult concept of 'Nipponisation'.

- TT *what do we mean by Nipponise someone
if I am trying to Nipponise a society
what will I be doing*

Example 153 (Lesson XI Normal)

Sometimes the teachers asked a multiplicity of questions. A closed question followed by another closed question (TT3-TT3). This variation appeared in most of the lessons, however, this form of questioning was most prominent in the Normal stream. Like the variation noted above this seemed to provide a scaffold to elicit the correct response from the students.

By contrast, when the multiplicity of questions took the form of an open-ended question followed by another open-ended question (TT4- TT4) the purpose of the interaction seemed to be that of stimulating thinking. This is demonstrated in example 154 below:

*TT why did they stay on in Chong Ching
what is the purpose of moving into Chong Ching
yeah Alan*

Example 154 (Lesson I Special stream)

This pattern occurred predominantly in Special stream lessons I, II, III and Express stream lesson VIII.

5.2.4 Pattern four: Teacher's response to student's response.

Often the teacher's evaluation of a student's response went beyond just an acknowledgement or a repetition of the answer, such as occurs in an IRE cycle. At these times the teacher would take up the response of a student and use it to further develop the point. This pattern of uptake (TT5-TT1; TT5-TT2; TT5-TT3; TT5-TT4) occurred in 6.4% of the interactions in the twelve lessons. However, the pattern varied in the different streams. For example, in the Special stream there were more occurrences of content being given in the teacher response (TT5-TT1). For instance, in the following exchange (Example 155) taken from a Special stream class the teacher responded to the student's answer of nepotism in Russia by further elaboration on how this situation was inevitable.

*TT why is it not fair
ST because
the czar's relatives and friends some relations friends
TT correct you can tell people a lot of things
but
people are not stupid they look at people and elect
them they look at the people who had been elected
the relatives of the czar were the ones who had won
the elections were in power and of course they
would not support it
because
they are a part of the system
so
the дума itself*

okay
 it was not effective we talk about the October
 manifesto how he said he wanted the immediate reforms
 but
 don't talk about the long term talk about short term
 immediate causes of the Revolution
 remember that there were two revolutions February
 and October we follow the Russian calendar
 okay
 October difference between February and October

Example 155 (Lesson VII Express stream)

By contrast, in the Normal stream this did not occur as often. When it did, the teachers' response usually involved the asking of a series of questions. These were short and to the point. Thus it appeared to be more of a drill technique. In the example 156, below, the teacher in the Normal stream lesson asked a closed question on the aim of the Nan Yang Communist Party (information is given in the textbook). The student replied 'to spread communism'. The teacher then asked 'where'?

TT what was the aim of the Nan yang communist party
 ST to spread communism
 TT very good name
 to spread communism where
 ST in South East Asia

Example 156 (Lesson XII Normal stream)

5.2.5 Pattern five: Teacher 's explanation leading to questioning

The pattern of giving content or procedure which led to questions (TT1/TT2 – TT3/TT4) was present in all the twelve lessons, although in total it only occurred 3.5% of the time. In some classes these interactions seemed to be a device used by the teacher to facilitate discussion because they elicited responses from the students. They also served the purpose of promoting interpretation of history. However, in other classes they seemed to be an explicit attempt at control by the teacher and it is notable

that this lockstep pattern was predominant in the classes deemed less capable, namely in the Normal stream. In these classes, such as lesson XI and XII, the teacher provided small amounts of content followed by closed questions. It seemed he did this in order to test recall and to reiterate important facts in history.

There were times when the closed questions occurred in the form of fillers as in example 157. At other times the closed question was followed by procedure as in example 158 and in example 159 where the teacher provided content and then asked a closed question which was then followed by the teacher requesting students to underline the important points. In this latter example, it appears that this procedure adopted by the teacher is used to help the students to manage the information.

*TT they believed in equal sharing equal sharing of
resources and everything communism is a set of
ideas and people who believed in these ideas are
called/
communists*

[/ indicates the rise in tone as in fillers]

Example 157 (Lesson XI Normal)

*TT this chapter deals with one group of people
who knows which group of people I am referring to
just look at this and which group of people am I
I'm referring to*

Example 158 (Lesson XI Normal)

*TT this party before it was called Malayan communist
party*

ST what was the old name of this party

ST Nan yang communist party

TT underline that

Example 159 (Lesson XI Normal)

Similarly, procedural talk followed by closed questions provided a scaffold to help the students manage and make sense of the information, as did the giving of

content or procedure followed by a closed inductive question (TT1/TT2 – TT3). For example, in the Special stream lessons III and IV this pattern of interaction was used by the teacher to elicit talk from the students and to engage them in the interpretation of history. (See example 160 below).

*TT what about bloody Sunday in 1905 demonstrators
who were cut down by the soldiers
would that be short or long term causes or immediate causes*

Example 160 (Lesson III Special stream)

Another variation of this TT1 – TT4 pattern was when the teacher's giving of content led to an open-ended question although not frequent, did occur in most of the lessons. It seemed that this type of interaction promoted reflection by the students about a particular historical interpretation e.g.,

*TT government was seen to be the retreating force
but
why were they retreating
Why did they stay on in chong ching
What is the purpose of moving into chong ching*

giving of content
open ended question

Example 161 (Lesson I Special stream)

Thus while the giving of content or procedure leading to closed questioning were attempts used to manage, drill and transmit historical facts and ideas, the giving of content or procedure leading to open ended or discursive questions seemed to facilitate discussion appeared to be attempts by the teacher to stimulate the historical thinking process.

5.2.6 Pattern six: Teacher's negative response

There were very few instances when a teacher gave a negative response (0.1%). The few such occurrences happened only in the Normal stream lessons. One instance, as shown in the following example, occurred when a student addressed the teacher in Chinese (out of turn) while the teacher was talking. Speaking out of turn especially in a language other than English, is not accepted in the Singapore classroom and was frowned upon by this teacher, as can be seen by the way she reprimanded the student. Such an unusual outburst in a Singapore student is regarded as defiance.

- TT *later I will comment
now my main focus...*
ST *teacher*
ah (speaking in Chinese)
TT *if you are still talking I will stop I won't teach*
ST *your wish*

Example 152 (Lesson XI Normal stream)

Other instances of this pattern of interaction occurred as the teachers had to call on particular students to pay attention or to sit up straight as slouching on the table is not acceptable in the Singapore classroom.

In another case in the Normal stream lesson XII, the teacher had to constantly watch over a difficult student 'Daniel'. To achieve this she called on him now- and then to make sure that he was paying attention. She even posed a question to him to try to keep him engaged. It appeared to be a rather difficult task for the teacher.

TT *must be alert Daniel*

Example 163 (Lesson XI Normal stream)

TT *Federation of Malaya
Daniel
you must sit straight
Daniel
Thanks*

Example 164 (Lesson XI Normal stream)

In the example 165 the teacher posed a question which 'Daniel' failed to answer in spite of a prompt from a peer. His lack of response caused the teacher to ask a somewhat sarcastic question about whether his throat was sore.

TT *must be alert Daniel
MCP stands for
ST X
ST (aside)Malayan communist party
TT sore throat*

Example 165 (Lesson XI Normal stream)

Later on in the lesson 'Daniel' was still inattentive, so the teacher makes one more attempt to involve him in the lesson. She prodded him twice but he refused. However, the class answer in a chorus on his behalf, which enabled the teacher to get on with the lesson.

TT *write there
To fight the Japanese
take down special side notes to fight the Japanese
okay
and who trained them in guerilla warfare
Daniel*

who trained them in guerilla warfare
who trained them in guerilla warfare
STs *British British*

Example 166 (Lesson XI Normal stream)

5.3 Student-centred patterns:

5.3.1 Pattern seven: Student's response followed by teacher's response

Unlike pattern four where the teacher developed predictable and sometimes unpredictable responses of the students, in this pattern the teacher evaluated the responses. This made up 6.7% of the total interactions. In this pattern, students' predictable responses were either followed by the teacher's acceptance of the ideas expressed by the students or alternatively the teacher asked another closed question. In addition, sometimes students' predictable responses were followed by procedural talk by the teacher.

This pattern was predominant in lessons which involved the drilling of facts, such as in the Normal stream lessons X, XI and XII. See for example 167, and 169 below:

TT *what other benefits can you think of*
ST *communication*
TT *communication*

Example 167 (Lesson X Normal)

TT *tin mines to the port tin mines to the port*
what to the port
ST *the tin*
TT *the tin say it in full*

Example 168 (Lesson X Normal)

In the Special stream discussion lessons II and III, however, the teacher used a similar pattern not as a drill but in this instance it was done in order to elicit responses from the students so as to steer the direction of the discussion which was if Stalin was autocratic. See example 169 below:

TT was the Czar autocratic
STs yeah
TT was Lenin and Stalin
ST Lenin Lenin
TT were they autocratic
ST ...a bit more bent towards
TT and then was it more was it better under Stalin
ST no la
ST he was only a bit better

Example 169 (Lesson III Special)

Other examples of student's response followed by teacher's response patterns occurred when the teacher asked a closed question of a student to which the class gave a choral response, with the teacher voicing in unison with the students. This can be seen in the Normal stream lesson XII (example 170).

TT outright means/
open
STs open
TT rebellion means/
fight
STs fight

Example 170 (Lesson XII Normal)

With respect to unpredictable responses the teacher either accepted the students' idea (see example 171):

ST because
ah
the Chinese were not interested in the manufactured

*goods they were but interested in from
British exchanged their goods for spices and tried to
trade with china for these spices*

TT *alright
okay*

Example 171 (Lesson I Special stream)

outlined a procedure or challenged the student with another question, as in example 172:

ST *because
when Hugh Low arrived in Perak Perak was in
the people was supported different sultans their tax
collection was done again and again*

TT *okay
let me ask you a question then
when Hugh Low came was there a fixed sultan
already*

Example 172 (Lesson IX Normal stream)

In the following exchange the teacher responded in an accepting manner to the student's initial response, she then asked another question. This results in another unpredictable response, which once more is followed by more questions and similar unpredictable responses by the students, for example:

TT *where would this revolution come from*

ST *Mr Bakar on a small scale the setting up of the
speaker's corner can be considered a revolution*

TT *how do you define that*

Example 173 (Lesson II Special stream)

Within this pattern of interaction, there were also instances when the teacher evaluated the student's answer through the use of explicit correction, as in the following example. This mostly occurred in lessons in the normal stream classes where a drill of facts was involved.

- TT *what is the meaning of massacred*
 ST *massage massage*
 TT *don't simply say I'm going to shoot*
massacred means a very cruel way of killing

Example 174 (Lesson XI Normal stream)

5.3.2 Pattern eight: Students initiating talk to teacher and the teacher responding

On a few occasions (2.3%), students initiated talk to the teacher after the teacher had given content or procedural information. As a consequence, the teacher responded by giving further content, or alternatively, by asking a closed question. However, the form this interaction took varied in the different streams. For example, while the talk initiated by students in the Special stream was of a kind that added to the discussion, much of the talk initiated by the Normal stream students was usually in the form of them suggesting they had difficulty following the teacher's meaning. And, unlike the talk of special stream students, the talk initiated by Normal stream students was brief, sometimes just a word or phrase. In the following example, taken from a Special stream lesson in which the teacher and students are discussing the Singapore town plan and the British policy of divide and rule, the teacher makes reference to the power of this treaty assigning Singapore to the British. The student showed reflection and thought when he commented that such planning helped the British to assert control over the people.

- TT *this is the power of the treaty*
right
that is the power of such town plans innocent
documents but actually they tell you a different story
 ST *If you combine all of them into one area you can*
attack and control them you can rule them

*So
instead of say you give the pressure to one group and
another group and no body knows and nobody talks
To anyone else in the area*

Example 175 (Lesson II Special stream)

Further, the student's responses in the Special stream are longer and they use exploratory language in their responses. By contrast, the Normal stream students' questions and comments do not add to the discussion or to the lesson, for instance:

*TT okay
let us run through the revision for Japan and china
ST I didn't buy the book*

Example 176 (Lesson XII Normal stream)

5.3.3 Pattern nine: Student initiating talk to a peer

In this pattern, students initiated talk to a peer or teacher, who then respond. This pattern of interaction appeared to encourage and foster thinking. This first variation involving just the students is illustrated in the following example:

*ST It isn't even steps
I think
I think
It is even slower something then a step by step
ST It takes a few hundred million years*

Example 177 (Lesson III Special stream)

The second variation of this pattern, which involves the teacher's response, is shown in the following example. Here, a student raises a point with a peer but it generates a response from the teacher, which in this case, is in the form of an open-ended question.

- ST *we cannot say for sure that every change in the government is for good and basically evolution is about everything*
 TT *but what causes evolution as compared to revolution*

Example 178 (Lesson III Special stream)

Overall this pattern of interaction occurred 2.7% of the time and it was more prominent in the Special stream class discussion lessons II and III and Normal stream class discussion Lesson X.

In Special stream lessons II, III, IV and Express stream lesson VIII, this pattern of interaction seems to engender a smooth flow in the discussion. Further, it encouraged the students' use of genuine exploratory language to express their views. Another feature of this talk, especially in the Special stream lessons, is that the students tend to 'qualify' the statements made by their peers, rather than simply 'adding an extension' to the talk which is what seemed to happen in the discussions in the other streams. In other words, there appears to be a difference in the quality of the peer talk. This is evident in the two examples given below. The first example, taken from a special stream class shows the students exploring and building on issues together.

- ST *one point to note to note is two wrongs do not make a right*
 So
the Dutch what they did wrong was that they interfered in the matter
 So
you may think it is legal for the British to interfere also xx
 ST *because*
from what I see whoever is called the sultan is the
 ST *is the what*
 ST *whoever was the sultan at this point in time was the legal ruler*

Example 179 (Lesson II Special stream)

By contrast, peer talk appears to be quite different in Express stream lessons V, VI and in all the Normal stream classes. The exchanges are brief and the peers tend to provide prompts to help each other to answer the question posed by the teacher. This can be seen in example 180 below. Note that the prompts by peers are shown in brackets.

- ST *the residential system also brought law and order
which attract the investors to invest in Perak
which [increased the economy in Perak]*
ST *to [[increase the revenue]]*
ST *this this*
Ah
*residential system was a success it was also used in
other states in Malaya in Malaya*
{business} ...
ST *[[{business}]]*

Example 180 (Lesson X Normal stream)

The use of prompts seems to occur because the students have difficulty with the language of the lesson and lack confidence in their speech. For instance, in the following example, the students are examining and describing the picture of King Chulalongkorn of Thailand. They stumble over words such as 'westernisation' and 'modernisation' and words such as 'dressing' and 'clothes'. To overcome this they provide help to one another. Often during the course of these prompts the students code-switch, especially when the teacher was not within their vicinity¹⁰.

¹⁰ Code-switching is discouraged and frowned upon by the Singapore teachers.

- STD* *okay okay*
so westernized westernized ah a lot of badges
STA *westernized and what and quite modern quite*
Modern
STB *modernised*
modernized or westernised
STC *very high class*
STD *and modern*
STC *very high class very high class*
Okay
you never say picture one picture two
STA *ah modernised*
Modern
modernized means that you develop the country
STB *modern or what*
STC *say westernised*
later then write write and then explain why
STD *he look western*
STC *western like cowboy ah western*
STA *then then you because of the clothing*
STD *because of the clothing*
STG *because of his dressing ah*
STC *ah ah ah*

Example 180 (Lesson V Express stream)

5.4 Patterns centred around other types of talk

This final type of interaction pattern involved other types of talk. It comprised 9.5 % of the total interactions, but once more its occurrence varied according to pedagogy and stream. There were occasions when teachers verbalised as they wrote on the board and students verbalised what they were writing on the transparency while they were undertaking writing tasks as part of group activities. This was especially true as the students helped one another in preparing their answer, making sure the spelling of their answers were correct, e.g.,

STB *Sociable*
 STC *Yeah*
Leng Leng finally said something
 STs #
 STC *s-o-c-i-a-l-t-e*
 STF *why why*
why is he friendly and sociable
 STD *Because of his look on his face*
 STF *(writing)*
 STC *now source (b)*
Ah
 STD *facial not face f-a-c-i-a-l*
okay

Example 181 (Lesson V Express stream)

While students were engaged in group discussions and tasks there were also occasions of code switching (OT1-ST5), especially in the case of students in the Normal stream classes. In the example given below, the students interacted by switching between Malay and English.

STJ *what ah*
 STH *ra' chakap sikit plan plan*
 STJ *Yeah*
but this one she says is Perak's economy
Right
So
I think revenue has nothing to do with it
Okay

Example 182 (lesson IX Normal stream)

There were also occasions when students gave long formal oral presentations, referred to as "presentational" talk by Barnes and Todd (1995, p.9), whilst the less able students from some of the Express and all Normal stream classes read out from written scripts (see example 183 below). The formal presentation by students in one of the Special stream lessons (IV) was slightly different:

*ST Singapore has only a short experience in democracy which means that there were less people voted for labour front and the second point we had was that labour front did not get a large majority of votes in the elections the third point was that there was there was continued communist trouble in Singapore which threatened the people in Singapore and that were the reasons why the British did not want to give full self government to Singapore and because of that the British would still like to have Singapore for themselves
for the next question what do you all understand by the term full self government what we gathered is that the government ruled by its own people*

*TT okay
good
alright
so
this group has more or less given you the main reasons why the British did not want to grant independence*

Example 183 (Lesson V Express stream)

In the special stream lesson the student made an attempt to speak with less reference to her written notes. She was also able to generate questions and respond to comments from her peers and from the teacher which arose in the course of her report. Her presentations by the Special stream students were followed by side comments to their peers (talk aside), and it also triggered further development in the discussion. For example, an open-ended question was asked which in turn led to an unpredictable response from the presenter or from the other students. This is demonstrated in the example below.

*Pt um yeah
while the Bolsheviks had this a little bit of support
So
Karl Marx support
so
it is needed more support for the masses and
ah yeah
it has
yeah*

- future to be more supportive of the masses it*
Yeah
okay
it was hoping to lower down was running at six
hundred percent and production was...
the Marxists also believed that
um
crops belonged to the state
so so
it was a communist idea
so
what Lenin did was he introduced war communism
 ST *War communism (aside)*
 Pt *he seized food from peasants*
Ah
for the red guards
 TT *okay*
Hold on
war communism
what was the what was the political reason for the
implementation of war communism
 ST *to ensure survival of the red*
ah
to ensure survival of the Bolsheviks
 (Pt. stands for presenter)

Example 184 (Lesson IV Special stream)

Within this pattern of interaction was also talk which was categorised as being off task. There were several instances when this occurred in the lessons. In the following example the teacher and students began to discuss the topic of getting into a good junior college after the Cambridge Examinations. The teacher talked about his experience as a student and how he wanted to go to the best college. A student made a comment in jest in order to tease the teacher. He said that if one was so obsessed with getting into a good junior college one could easily purchase a uniform of the college and pose as a student of the college. A light banter followed between teacher and students over this remark.

- ST *go and buy la*
 TT *we will feel so*
 ST *buy la*
 STs *laughter*
 TT *That's different James*
 ST *laughter*
 TT *if you buy it is not yours*
 ST *Buy la*
 TT *if you buy*
 You know
 You don't own it
 what is the point of cheating if cheating is if
 cheating is lying people
 ST *okay la go and buy la*
 Don't worry
 TT *making people believe*
 ST *concerned about*
 ST *You want to wear the shirt then*
 ST *teacher I wear the shirt I didn't force them to believe*
 That I'm capable of wearing it
 TT *You know that that is a lie*
 be cause
 your aim when you walk out of the school people
 Will know that it doesn't matter whether people
 believe it
 ST *teacher your aim is just to wear it*
 laughter
 ST *yeah*
 exactly your aim is just to wear it and walk
 STs *laughter*
 TT *as a Bendemeer student I wasn't just convincing*
 people up there but I was also convincing myself
 That even though I came from a neighbourhood
 school I could still make it
 Now

Example 185 (Lesson VII Express stream)

The final variation of this of pattern involved the use of computer-mediated communication. There was only one lesson in which students engaged in such an electronic forum discussion. In this lesson the students keyed in their comments, which were then available for others to read. One notable observation about these exchanges was that the individual turns were longer than in face-to-face communication, as can be seen in the example below:

ST *I think
The Sino Japanese war is important for the communist
victory before the start of the war the ccp were holed
up in yenan after the long march good peasant
support
but
only in Yenan not enough for them to take over china
Sino Jap war provided opportunity for them to gain
more support from the peasants important factor in
CCP victory KMT also lost support from peasants due
to its trade space for time policy as they felt kmt was
not doing anything other than retreating not truly
fighting the Japs KMT lost most of its best troops in
Sino Jap war hence its military was not as effective as
it could be against communists CCP was carrying out
guerilla warfare and this caused less losses this also
made them more experienced in guerilla warfare and
more able to beat the KMT in the Chinese civil war
hence Sino Japanese war is a very important factor
for the communist victory*

ST *The communists would have won anyway Chiang Kai
Shek in his short term as leader ruled as an autocrat
and did not care for the welfare of the people of
china therefore by trying to attack the communists
The communists would be portrayed as martyrs and
The nationalists as the oppressors Chiang Kai Shek
would have spent most of China's time and money in
trying to exterminate the communists and people
would have been discontented the communists
would also not be easily defeated as they were
experts on Guerilla warfare in the end as discontent
grows stronger the communists would gain more
support and in the end manage to effect a victory
having said that I must agree that the Sino Japanese
war really did a great deal in contributing to the
communist victory but in the end I think the
autocratic Chiang would have been overthrown in the
end*

Example 186 (Lesson 1 Special stream)

Also within this context, there were interactions that involved students reading from the computer screen and then adding their own comments. At times the teacher added his own response to this, such as the occurrence in the following example:

- ST The thing is that all you need is the support of the lower class people who feel felt oppressed no matter the higher class people are living off very well therefore they do not care who is who forms the government*
So what we need to do is to win over the people who are who need the help from the government and if they believe that you can help them the government than your political party would form the government
- TT So you are trying to say that*
ah the best way in which you can prove to be a good government is when you are able to get the feel of the ground and in this case the peasants If you can do something for them while other people have not done anything then you are worthy candidate for me
To consider

Example 187 (Lesson 1 Gifted stream)

5.5 Summary of Findings

The occurrence of the ten patterns of interaction in the twelve lessons appeared to vary according to the stream and the pedagogy employed by the teacher. The teacher-talk in the classes with more able students appeared to be more dialogic in nature with the teacher trying to establish rapport and trying to engage students in the interpretative process. Also with Special stream students, the giving of content by the teacher appeared to be more interpretative and open-ended. Similarly, the tasks were more divergent in nature. At the same time, the Special stream students appeared to be more confident with language, were more verbal, took longer turns and participated when given the opportunity. The teachers in these lessons also used a variety of aids such as the use of Computers, videos, CD ROMS and other authentic materials. The teachers in the classes with less able students appeared to be more concerned with the content rather than the interpretation of history. They tried to adopt various strategies to explain difficult concepts to the students. They did this mainly by simplifying or

scaffolding information in small simple doses to assist their students in understanding. The teachers also used various strategies to keep these students engaged in the learning process and to capture their interest. The tasks set by these teachers were mainly of the convergent kind which were also very much based on textbook and worksheet exercises. The students themselves seemed to have difficulty with the language that was used and they often only responded with one word or a phrase. Unlike the more able students who were more likely to make aside comments, the less able students prompted and scaffolded information for each other and helped one another either individually to respond to the teacher or, they did so as a chorus response with their peers. These less able students also seemed to allow themselves to be controlled and guided by their teachers, their textbooks and their worksheets, unlike the better students who raised questions of the teacher in order to actively participate in the discussions.

CHAPTER SIX

Critical Episodes

6.1 Introduction

A special focus of this research is the critical episodes that occur in the teacher-student interactions within the classroom. An episode is deemed to be critical when the teacher and student(s), or the students together without the teacher, appear to be engaged in the process of establishing a historical understanding through adductive reasoning and empathy. This is apparent when the teacher's and students' talk show that they are interpreting information and /or displaying historical understanding. Specifically it occurs when through the language they are using, it is apparent that they are: drawing conclusions; making inferences or making sensible predictions; extending and qualifying statements by drawing on other evidences or viewpoints; asking appropriate and searching questions; seeing things from the point of view of others; setting up hypotheses; raising new questions; contradicting each other based on the basis of key issues; and, adding to shared knowledge by referring to their own experiences.

For an interaction to be identified as a critical episode, it needed to be obvious from the transcripts that the teacher was in contact with students and the students in contact with the teacher or their peers. This was apparent when either there was evidence of implicit dialogue (as in the concept of voice described in Bakhtin's theory on the dual-

voicing and polyphony)¹¹ or because there was an explicit dialogue between the students, which may or may not have included the teacher, that showed that they were engaged in historical thinking such as through the use of exploratory talk. Finally, it was also possible to identify critical episodes because of the particular interaction patterns they involved.

A further in-depth qualitative analysis was undertaken of such episodes to explore the pedagogical strategies used by teachers at these times. An examination was also made to determine the other related contextual features that seemed co-occur with these episodes.

In order to present this analysis, these episodes are described according to the types of interactions:

- a) Teacher-centred interaction patterns
- b) Student-centred interaction patterns

Critical episodes did not appear to occur when talk involved other types of interactions (e.g., off task talk, presentation talk).

6.2 Teacher-centred interactions

The critical episodes that occurred in teacher-centred interactions were of three kinds, namely dialogic and demonstrated by a polyphony of voices; explicit engagements between teacher and students, and, the teacher's uptake of student's response.

¹¹ Knoeller (1998) explains Bhaktin's theory of voice in his discussion of how voices and voicing enter the writing and talk of students, thus providing another perspective to understanding classroom language events and an analysis of classroom language.

6.2.1 Episodes which were dialogic in nature

The episodes that were dialogic in nature and demonstrated polyphony of voices occurred when the teachers mediated between the characters in history, his or her own talk, and that of the students. This included episodes during which the teacher engaged the students in an implicit dialogue. In these dramatised responses, it seemed that the teachers used first and second person (i.e., dual voicing) to evoke empathy and imagination in the students. During such dialogues there was also evidence of back channelling (see 5.2.1) as the students listened closely to the teacher. Although this type of critical episodes occurred in most of the lessons, it appeared at different contextual moments in the Special stream, Express stream and Normal stream lessons. Further, it seemed that they served different functions in these various contexts. When they appeared in the Special and Express stream lessons, the teachers were providing new information in an interpretative manner and engaged the students in the interpretation and understanding of the historical event. In contrast, in the normal stream lessons these critical episodes occurred as the teachers tried to get the attention of the students and to simplify and scaffold the information for them.

An examination of the critical episodes showed that the teachers were able to reach out and make contact with the students in three ways. Firstly they used meta statements in a similar way as described by Stubbs (1983). Secondly, the teachers engaged the students in trying to make history part of the students' own experience through the use of the second person 'you'. Thirdly, the teacher engaged in a dialogic interaction with the characters of the past as described previously (see 6.1) which in turn appealed to the students' imagination and empathy by mediating between the 'then' (in

history) and the 'now' in (the present). When these episodes occurred, not only was there dual - voicing but, the teacher's discourse was generally disfluent, punctuated by features such as meta-communication, discourse markers, pragmatic markers, cognitive cues, hesitation markers and changes in direction. This seemed to demonstrate that the teacher was searching in his mind and trying to draw out historical facts in order to make sense of the past for the students.

As noted above, these episodes are deemed critical because contact was made between teacher and student. The contact was noted to be a nod from the students, a show of attention in the form of a murmur, as was the case of the students from some of the Normal stream classes or an explicit response from the students as in the Special stream classes.

The disfluency of the teacher's speech is illustrated in Example 188. In this example, the teacher, Mr Siva from the Special stream, prepares the students for an IT task which involves a discussion on a forum page. Before the task he provides material as a form of input, where he gives his interpretation of the historical events in order to stimulate their thoughts and ideas. As he does so, he pauses frequently and changes direction. He begins with an implicit dialogue which evolves into a dialogue with the students:

TT The three people's principles
ah
and in the last lesson we looked at how he fell far
Short
Alright
in the aspect of giving land to the filler the filler is
Harvester
Alright
there was very little regard for
Ah
the peasants welfare
in fact

some of the landlords were made
ah
even
Ah
Ah
were made even more powerful
Okay
But
very little reforms were introduced to solve the
plight of the Chinese peasants in the country side
Okay
in fact
you know
When there were famines and flood there was also
very little

Lesson I Special stream

Example 188

The teacher's hesitations in the episode above, shows the dual voicing he uses to bring together his thought through an interaction of internal and external speech (Vygotsky, 1962). He selects his evidence and explains the reaction of the Kuomintang and gives this as proof as to why few reforms were introduced. This account is made more convincing by the use of meta language and meta comments (Stubbs, 1986). He also uses words such as 'alright' to check and confirm the students' understanding. All the time he maintains contact with the students through the use of such meta statements. The pragmatic marker, 'you know' appears to be a rather powerful one as it establishes a strong contact with the students and draws them to the teacher's way of thinking. The above episode ends with the teacher putting forth the question for discussion on how the Sino Japanese war changed the fortune of the Kuomintang. Once the thoughts of the students had been stimulated they are ready to respond by analysing the situation. Interestingly, this form of interpretative narration appears in all the different streams. It appears, however to be more prevalent in the Special stream where such discourse seems to be used to prod the students to further reflection. It appears that this strategy not only

generates higher order thought as the students analyse by drawing a cause and effect link, but as shown in this research, the answer and comments they give are much longer.

There were also other occasions, in this lesson when the teacher's voice clearly made contact with the students (this is also highlighted with an asteric in the example 189 below. These were deemed to be critical as the teacher was able to draw the students into the dialogue and engage them in the process of historical understanding.

In the example 189 below, Mr Siva, explains Chiang Kai Shek's defence and draws on the empathy of the students about the situation:

- Tr *Ah*
Chiang cooked up a brave defence of the Yang tze
Basin area
Alright
but
lost some of the best troops in the first weeks of the
war
But
because
He basically the Nationalist Nationalist troops that
con concentrated on the city area
alright
So
* *you begin to wonder*
alright

Lesson 1 Special stream

Example 189

In the next example 190, the teacher evokes empathy as he attempts to give a voice to the characters of the past. This is a critical episode as the teacher attempts to mediate between the students and the historical characters, in this case Warren Hastings Raffles, Bannerman and Farquhar when he says:

- Tr *the Governor General of India at that point of time was Warren Hastings*
 Alright
 and he
 Ah
 gave Raffles
 Ah
 more support in fact he gave Raffles permission to set up a base
 Ah
 but
- * *he said that whatever you do do not offend the Dutch* (the voice of Warren Hastings)
 Okay
 Ah
 if whatever base you have selected
 Ah
- * *they have been occupied by the Dutch then you would have to abandon the project* (the voice of Warren Hastings)
 Okay
 Ah
 and when Raffles went to Penang
 Alright
 after getting help with William Farquhar
 and all that
 he was informed by Bannerman that the Dutch had occupied Rhio Islands
 Alright
 the Rhio Islands
 Ah
- * *this area here your Bantam your Bintang and all that this area* (the voice of Bannerman)

Lesson 1 Special stream

Example 190

In this critical episode the teacher, Mr Siva, in interpreting history is not only interacting with the students but has a dialogical interaction with the characters in history (the voices of the historical characters are given in bold) resulting in the teacher re-contextualising the discourse to enable students to empathise with the historical personalities.

The next critical episode occurred in the Normal stream lesson when the teacher brought the 'then' and 'now' experiences together. This strategy appeared to be one of the strategies adopted by the Normal stream teachers to make history real and concrete to the students and to capture their attention. This can be seen in the example below. The

teacher gains the student Daniel (an inattentive student) by creating a context where he interacts with the Japanese Kempeitei who is represented by another student, Fauzi.

- Tr So*
if for example Fauzi could be a Japanese spy he will
he is a spy
what will he do to Daniel
Daniel how are you (the voice of the Japanese spy)
you like the Japanese
Daniel will say I hate the Japanese sure he will (the voice of Daniel)
inform the Kempeitei the Kempeitei will come to
Daniel's house
come out quick come out then they will ask him
(the voice of the Japanese Kempeitei)
some questions the Kempeitei found out who were in
favour of the Japanese and who hated the Japanese
by using spies by using spies
Understand
the Kempeitei are very famous for that some people
have to work as spies you cannot say I don't want
to be a spy
would the Japanese allow it
No
(the students murmur in response)
- Sts* lesson XI Normal stream *Example 191*

This is deemed a critical episode when the teacher succeeded in obtaining the attention of the students as they murmur together (demonstrated with the symbol ##) denoting some flutter of excitement

6.2.2 Explicit engagements between teacher and student

Critical episodes occurred in explicit engagements when the discourse and social moves of teachers and students accorded in combination with the cognitive strategies. In such episodes the teacher and the student were actively engaged in the discussion and interpretation of an historical event. During such episodes, more talk was generated between the teacher and with the peers. The discussion was fast-paced and there was more student participation and in some instances with several students competing for the

floor. The student participation was spontaneous and was not the result of a teacher directed question at a student. The type of interaction is represented by pattern (TT3/TT4 – ST2).

Such critical episodes also occurred when the teacher- talk led to open-ended questions for reflection or when open-ended question, or multiple questions were asked by the teacher. An unpredictable response was then given by the students as in this form of patterns TT4-TT4-ST2. The unpredictable response led to further open-ended questions i.e., uptake occurred. This interaction pattern is represented by ST2-TT4. This is demonstrated in the lesson I and lesson III of the Special stream class. The point of interaction between the cognitive and social moves is demonstrated with an asteric in the example 192.

- Tr the sudden end of world war two
alright
meant what
meant that now the Japanese occupied areas will
have to be liberated
Alright
who is supposed to go there
is there any benefit you will get if you were to go
there first
what sort of benefit will you get*
- St People will see you as a group that can rescue them* *
- Tr Okay
people might see you as a group that rescue them
what else
Why would you want to go to these places like
Shanghai Wuhan Nanking places that that the the
Ah
the Japanese were controlling
why would you want to go to these places*
- St they can be viewed as a saviour* *
- Tr Alright
they can be viewed as a saviour that
Ah
what else
what else can you gain from these areas
that the Japanese used to occupy*

Example 192

This form of episode occurred in special stream lessons and in two of the Express stream Lessons.

These critical episodes appeared more in teacher led discussions as the teacher stimulated and prompted the students to think at a higher level, through the use of both open-ended deductive and closed or inductive questions. The result was that the teacher succeeded in having the students use exploratory speech and the response was often long and unpredictable. An example of this taken from Special stream lesson is demonstrated below. Students' response showing historical thinking which is of a higher level is indicated in asteric:

- Tr: what about the good and bad effect*
St: that is the reason evolution is supposed to be a little more natural like
Tr: people will term it natural when we say it is natural
Okay
define what you mean by natural
St I think *
natural means not
ah ah
it is not so dictated by any
Tr Controlled
St Controlled
St by the need at the point of time
St: it is not
ah
not dictated by certain group of people by a
Tr -Then evolution
St -[not necessarily]
St [[it is not]]
ah
not not dictated by a certain group of people
St how about saying that it is a step by step *
evolution is more like step by step procedure
you don't comply whole new whole new whole
new change all at one go
but
you actually step by step slowly instead of
applying the whole thing out one chunk you go
step one step two step three step four step five

Lesson III Special stream

Example 193

In the case of the Normal stream lesson the critical incident occurred when the teacher succeeded in coaxing the desired answer from the student. In the following example, the Normal stream teacher, Mrs Krishnan, asks a series of open-ended questions, each question qualifying the previous one. The questions provide scaffolding to aid the students in the thinking. Finally, at the end of this process, the student provided a response.

- Tr: Okay
because of the terrorism because of damage to
Economy
Lily
do you think the government was fair in giving
Emergency
why couldn't the British government control the
Communists
why did they declare emergency and then deal with
the communists
why couldn't they control it so far
Why
St they were too powerful*

Lesson XII Normal Stream

Example 194

Being able to make the right move in what Wittgenstein (1972) refers to as the language game' also can be described as critical incidents in the lesson. The moves in the language game are realized in the chorus answers that the teachers succeed in coaxing from the students. When the students respond in a chorus it could be a full class or just a few students and with or without the teacher. This is seen in the following examples.

- Tr only eight
each province the Japanese had one man called/ [Filler]
the governor*
Sts the governor [choral answer]

Lesson XI Normal stream

Example 195

It appears in this example that the teacher has succeeded in stressing the important historical point that each province was managed by a Japanese Governor.

It is interesting to note that teacher's use of fillers and the choral answers by the students occurred in all the three streams but with what appears to be a different function. In the Special stream the teachers used this technique to prod the students and engage them in the discussion and direct them in the way of the teacher's thinking. The moves from the teacher triggered reflection on the part of the students. When the teacher made the 'right move,' it prompted responses whereby the students engaged in historical thinking. In the Express and Normal stream the teachers used the technique of fillers to stress an important factual point in the lesson. Sometimes it was also used as a device to keep the students engaged and listening to the lesson. When the teachers did succeed in getting a response from the class it can be seen as a critical episode in the lesson.

The type of moves the teacher used to promote historical thinking included:

- a) asking a series of questions, sometimes searching and open leading questions;
- b) asking open questions searching leading questions followed by closed inductive questions;
- c) repeating a statement so that the students could consider the point the teacher was putting forth;
- d) paraphrasing the students' statement to reflect the main idea;
- e) asking the student for more information;
- f) asking about the students' assumptions; and,
- g) generally challenging the students, especially to hypothesize.

These moves were apparent in all the four Special stream lessons and to a lesser extent in the Express stream. The moves from one Special stream teacher (lesson III) is used to illustrate the various types of moves that appeared to generate historical thinking.

a) Searching and open leading questions

- Tr *what are reforms*
what's that
what are reforms
St *changes for the better*

Example 196

b) Open-ended questions followed by a closed inductive question

- Tr *that covers evolution revolution for china overthrow*
democracy ah by setting up of the republic
what happened after that
there were all those paper wars
Yuan Shih Kai did what
what did Yuan Shih Kai wanted to do
set up a what /
a monarchy
St *Monarchy*

Example 197

c) Repeating a statement

- Tr *what is the meaning of revolution*
what is the meaning of revolution
is it only [change or]
St *{[no #]}*
St *Change*
Tr *is it just change*
Sts *{violent change}*

Example 198

d) Paraphrasing

- St *so so*
it means revolution evolution is not is not two
two terms it is something

ah ah
like meter where evolution is one end revolution is
one end
Because
Because

Tr -Did you hear that

Tr Here he is thinking it is not two different things on
a meter a range
St in evidence it is
St but there are differences as well
Tr that is why it is a meter

Example 199

e) Asking for more information

Tr must they follow the steps
St it isn't even steps
St I think
I think
it is even slower something then a step by step
St it takes a few hundred million years
St it is like
Tr you are thinking about Darwinism
St sometimes it sometimes it is so gradual that you
don't even you don't even realize it isn't like
specifically like like somebody's got got stalin's five
year plan within these years we accomplish this and
then you know it isn't like really specific step by
step plan of change

Example 200

f) Asking about assumptions

Tr Is it a good thing
St -No
St -because
the revolution fail before they can succeed
Tr what about japan
what about that
Ah
let's talk about this
revolution means a violent change or a system of
government in
Ah
historical terms that's what it means it cannot be
peaceful it is a violent change
Okay
that is according to historical terms
It should not be peaceful violent

- Okay
 compare that with this idea of evolution
 slow and gradual change

Example 201

g) Generally challenging

- Tr -Did you hear that
 St -some something like like
 Tr -Did you hear what he is trying to say Name
 You think revolution is something like that
 St - some
 because because
 like like
 Ah
 St how come
 St ...like like
 ah ah
 stalin's five year plan can be considered evolution
 But
 it was so fast some people can consider it a
 revolution and it is like revolution
 is basically is basically
 some some some revolution
 what causes revolution
 because of immediate needs
 But
 yet some people do revolution because of far
 sightedness it is like
 ah
 cannot answer
 Tr what do you all think

Example 202

h) Challenging students to hypothesize

- Tr how how do you define what happened
 in Japan Meiji
 St a speeded up revolution
 St rapid revolution
 Tr rapid revolution
 St -[a peaceful revolution]
 St -[I am thinking of...]
 St -[I mean that ...]
 Tr one at a time one at a time one at a time

- St roughly what I would say
 it is not violent but it wasn't that slow as it was*
Tr when we talk about Japan talk about Japan
*St No
 Reformation*

Example 203

6.2.3 Teacher's uptake of student's response

Critical incidents were also evident when the teacher's response was influenced by a student's response in such a way that it led to higher order thinking (ST2 – TT5). For example, a critical episode occurred when the teacher's thinking, and response were influenced by the student's remark and which led him or her to expound it further by providing new information or by asking another open-ended question. Teacher uptake of students' responses is an important strategy and if skilfully manipulated it can result in important critical episodes within the classroom. The nature of the teacher's uptake, however, differed within the various streams. In the Express and Normal streams the students' answers were used by the teacher in order to clarify or summarise the points raised. It was only in the Special streams that the teachers used the students' response as a springboard for further discussion. When this occurred, the teacher was able to engage the students in the historical thinking process and thus it was deemed to be a critical episode. This is exemplified below:

- Tr what is your point of contention*
St what I mean
is that actually this is the internal affairs of the Malays
Ah
so
it is actually foreign intervention
So
you are just like make any old how make a guy
who has actually same blood links to the past
sultan and then you just install him
Yeah

- it is the (although) he has an older brother but he is
Already
Ah
some sort accepted in there that he is the sultan
already he is recognized by most of the people
Ah
happy at least also by the Dutch which is actually
more of a major power there
so
you are just coming in and interfering with the
foreign affairs*
- Tr* *okay
So
the point made is that it might be illegal because
you are intervening in local politics that has already
decided who should be the rightful sultan you are
just creating a dispute that wasn't
any point of view*
- St* *that is what we thought as well and that is why we
were undecided*

Lesson II Special Stream

Example 204

6.3 Student-centred Interaction

Critical incidents occurred in student-centred interactions in both whole discussions and in group interactions. The critical incidents occurred mainly in two ways:

- i) When students raised questions of their peers, when engaged in the discussion of divergent topics, contradicted or qualified a statement made by their peers, and, where they displayed adductive thinking.
- ii) When student challenged the teacher by raising a question or by making a comment that contributed to the lesson.

6.3.1 Questioning, contradicting, or qualifying a statement made by their peers

Critical incidents of this type occurred in whole class discussions and in the Special stream lessons I, II, III and IV and to some extent in Express stream lessons when the teacher and students were engaged in the discussion of divergent topics. It also occurred in Normal stream but only in lesson IX and only when the teacher seemed to manipulate the type of peer interaction that took place. Critical incidents also occurred in some of the lessons mentioned when there were group discussions on divergent topics. During these group discussions, the students asked questions of each other, contradicted the statements or comments of each other and at other times qualified what each other said by adding their own ideas, building and formulating new hypotheses. This talk was spontaneous, and it seemed to involve exploratory talk whereby the students engaged in adductive thinking.

One such incident is described in detail below. In this episode as seen in example 205, the Special stream students are discussing the divergent topic, 'History has been unfair to many Singaporean pioneers such as Crawford and Farquhar who have faded in obscurity while the fame and reputation of Raffles has grown over the years'. The example shows the students stating their own positions, contradicting and challenging each other based on their evaluations of their evidence.

- D *Why Farquhar is not being in Singapore is because of Raffles*
Because unnecessarily they fired him and sent him back home in England
Right
that wrong deed to Farquhar was righted there was an announcement made then Farquhar redeemed his prestige but in Singapore everybody still doesn't like him
- K *but*
I think
also that the the achievements by Farquhar are are are not like monumental or or they are not like like Big
- D *no but the things those contributions that he made were vital to the survival of Singapore in its budding stages*
- K *I know*
they were they were they were vital but the only people who would truly realize the importance would be people at that time and they are all dead
Yeah
- D *but*
we have to look back in retrospect and realize that without Farquhar there would be no Singapore
- K *obviously without Raffles obviously the lack of popularity now with Farquhar shows that there haven't been people going back to look at Farquhar's achievements*
- D *they have but the main point that they have that the main reason why he is not that great is because he was fired and he was put in such a bad light that people (ang koh)*
Laughter
when people like because of the damage to the reputation that there is no way you can restore the you are forgetting that when Raffles fired Farquhar and Farquhar was leaving a lot of people actually came to the port to see him off
- M
- D *Yeah*
but
his reputation was still destroyed what he was accused of doing a lot of things
Are you would you disagree with that
- A *His name was cleared*
- D *His name was cleared in England but in Singapore the people in England they still like after his name was cleared they of course respect him*
- K *Okay Name we have recognised it as a valid point*
- A *His name was was was tarnished how come when he left people still*
- D *because because*
definitely some people would like him right

- K He did he did resolve all the police force and all the all the red tape*
- D the people like him but among the powerful among the powerful people in history he was fired by raffles for being inefficient and allowing the port to grow haphazardly*

Lesson II Special stream

Example 205

It is peer interactions such as these that result in critical episodes and which illustrate historical thinking process in the classroom.

A second type of critical episode occurred when the students challenged the leader or contributed to the lesson through comments that were challenging of the teacher. This mostly occurred in Special stream lessons where the students were more verbal and confident and where the teacher was less authoritative.

- Tr under communism not supposed to have money everything is supposed to be shared*
- St Yeah*
but
you need to find jobs for people to work
Right
you need to prepare yourself against other people
Right
So
you still need

Conclusion:

This chapter on critical episodes explores the nature of talk in the history classroom when the teacher and students engage in historical and adductive thinking. During this process three forces, empathy, imagination and historical understanding interact with one an. It was also apparent that the nature of this talk is distinct to the subject history, particularly when the teacher and students are engaged in the

interpretation of historical events and incidents. In this thesis such interactions have been deemed critical incidents.

Critical episodes, as identified by the nature of the talk, occurred in all lessons to a greater or lesser extent. It was possible to identify these episodes because of the nature of the talk. Both the talk of the teachers and the students were exploratory and fragmented, showing change in direction, with pauses and cognitive thinking fillers and the use of meta-statements, discourse and pragmatic markers, being evident.

In implicit dialogues the teacher kept in touch with the students through the use of meta-statements. The teacher and students also engaged in playing the 'language game'. In doing so the teachers used certain strategies to cue and to get the desired responses from the students. To play the game the student had to have verbal dexterity, confidence and the power relations had to be more equal with the teacher being less authoritative..

The critical episodes that did occur varied in different streams both in how they were achieved and the purpose they served. Further, in student-centred interactions and when the students were engaged in the discussion of divergent topics, there were more instances of critical incidents because the students often used exploratory talk at these times. There were more of such interactions in the Special stream lessons as the students had more factual knowledge and verbal dexterity. They also had better social skills and displayed more confidence.

CHAPTER SEVEN

CONCLUSION

This research examined the nature of talk and interaction in the history classroom in Singapore to address the following broad research questions:

- What is the nature of the talk in the history classrooms in Singapore?
- What are the patterns of interaction?
- Are there critical incidents where talk leads to historical thinking processes?

7.1 The nature of talk in the history classrooms in Singapore.

The findings show that the talk in the history classrooms investigated in Singapore consists of three types. They are teacher-talk, student-talk and other types of talk. Of the three types of talk, teacher-talk comprised 63% of the talk, student-talk 28% and other types of talk 8%. Teacher-talk involved the giving of content information; the provision of direction; stating procedure sometimes in order to manage information; the asking of closed inductive questions; the asking of open discursive questions; the acceptance of the student answers; and, the rejection and criticism of student answers. Related to this are the various types of student talk that occurred, specifically: making predictable and unpredictable responses to the teacher; initiating talk to the teacher; responding to their peers; and, initiating talk to the peers. Both teacher and students also engaged in other types of talk such as talking off-task,

verbalising, or when the students made formal presentations in class, when they engaged in electronic talk, or, code-switched.

A qualitative analysis of the data which was supported by descriptive statistics, revealed that the teacher talk, the student talk and other types of talk varied in nature. In particular, the talk varied according to the stream that the students were in, and the pedagogy employed by the teacher.

Firstly, the nature of talk varied according to the ability of the students. It appeared that in the case of the higher ability streams the teacher and students were engaged in the co-construction of knowledge, whereas with the less able students, the teacher was mainly concerned with the transmission of facts. The ability of the students also affected the role in which the teacher interacted: With the more able students the teacher acted as a facilitator so as to sustain the interaction with the students. By contrast, with the less able students, the teacher exerted control acting as an authoritative figure who maintained discipline and who simplified and scaffolded information. With more able students the teacher was able to engage in the interpretation of history and in the process of historical thinking and understanding at a higher level. However, with less able students, the teacher managed the learning for the students by scaffolding the information for them through close reference to textbooks, notes and worksheets. Finally, the nature of talk depended on whether or not the teacher was able to actively engage the students by evoking their empathy and imagination. If successful, the teachers were able to do this in various ways such as by relating events in history to the students' own experiences or by mediating between the historical characters, the historical text and the students in order to establish a historical

understanding. If they were unsuccessful, the teacher relied on checking the students' understanding and helping them commit historical facts and ideas to memory through recitation and drills in preparation for examination.

With respect to the nature of the student-talk this seemed to vary according to whether or not the students possessed a high level of verbal dexterity and social skill, as was the case with the Special and sometimes Express stream classes; or whether they lacked such skills and could only communicate in single sentences or by code-switching. The nature of talk of the students also varied according to their ability to be actively engaged in the learning process. It depended on whether or not they were able to raise questions, either of their teachers or their peers, in order to contribute to the lesson. Finally, the nature of the student talk varied according to whether they were able to form new hypotheses and raise new questions, or, if they were simply passive recipients of knowledge.

The nature of the other types of talk was also determined by the context of the classroom, including the ability of the students. For instance, it varied according to whether the teacher chose to write something on the board to reiterate an idea or concept to the students, or if the teacher and the students found themselves digressing from the lesson and engaging in off-task talk.

As well as being varied on the basis of student ability, the nature of the classroom talk was also determined to some extent by the pedagogy and strategies employed. However, the type of interaction employed was in turn, at least in part, determined by the ability of the class concerned. For example, the nature of the classroom talk differed if the teacher used authentic materials, or the lessons involved

the use of computer technology and CDROMs. It also varied if the topic set for group discussion was of a divergent compared to a convergent kind. It would vary if the pedagogy had the teacher in a dominant role where he or she imparted new knowledge compared to a more facilitative role. Finally, it would vary if there was a reliance on textbooks or writing tasks (especially those which involved filling in blanks on worksheets) rather than when more open ended and investigative methodologies were involved.

In light of the comparison made between the nature of talk and the pedagogies employed, it seemed that history classrooms in Singapore tended to fall along the transmission-interpretation end of the interaction continuum (Barnes, 1986; Brophy, 2002). In turn, this continuum reflected both the stream of the class and the pedagogies employed, so that the Normal stream classes could be positioned towards the transmission end of the continuum, and the Express and Special stream classes towards the interpretation end. However, because of the exceptions that occurred from time-to-time, this appears as a trend rather than being a categorical relationship.

In general, the Normal stream teachers were mainly concerned with transmitting a fixed body of information and facts to the students. This information may have come directly from the teacher, or it may have been text-based. Also, the teacher was often an authoritative figure who exerted control, and who steered the students in their learning and behaviour. They frequently checked the students' understanding, and provided feedback about the correctness of their responses. They employed drill and recitation, where they required the students to memorise and regurgitate learnt information. They also used more closed and convergent questions

which required predictable responses. Finally, in these classrooms there was less talk directed from the students to the teacher and to their peers.

By contrast, Special and sometimes Express stream classes tended to represent the other end of the continuum. In these classrooms, interpretations were co-constructed by the teacher and students as they shared understandings through sustained dialogue. In addition, the teacher supported the students so that they could relate new information to their existing knowledge. The questions that were asked were more divergent and open-ended. Activities and tasks were also of a divergent kind and seemed to stimulate historical thinking.

Thus teacher talk ranged from transmission of content in the Normal stream lessons, to that of teachers in the Special stream facilitating development by engaging students in the type of talk that had them interpreting historical information. The interaction patterns that facilitated these processes in the history classrooms in Singapore are examined in greater detail below.

7.2 The interaction patterns

The interaction patterns that occurred were of two main types. Those in which information was scaffolded and managed and those, which were more dialogic in nature.

7.2.1 Scaffolding and managing information

When teachers were engaged in scaffolding and managing information for the less able students the interaction patterns belonged very much to the IRE patterns of

interaction (i.e., TT3-ST1-TT5). As such, the interactions between the students and the teacher were less dialogic and more a transmission of facts. The information was managed for the students through the use of such things as the asking of closed questions to test recall, through the use of verbal prompts and the asking of a series of questions, which often generated choral responses or echoing of the teacher. The teacher also used procedural talk to manage the content for the students and to steer information in accordance with the requirements of the examinations. There were generally fewer open-ended questions in these lessons and the teachers' response in such interaction patterns was that of acceptance of students' answers (rather than acceptance of students' ideas for further development). In the giving of content, the teachers often resorted to concrete, everyday experiences.

The response from the students to the teacher was generally in the form of one-word answers or short phrases. Their responses were thus more predictable. Code-switching also occurred. In addition, when peer talk occurred, it tended to be of a type whereby peers prompted each other on how to respond in class. Finally, the initiation of talk by the students to the teacher was mainly in the form of seeking clarification, rather than adding to the meaning of the discussion.

7.2.2 Dialogic interactions

In many of the lessons in the Special stream, and in some Express stream lessons, the interactive patterns were more dialogic in nature. During these times the teacher kept in touch with the students both covertly and overtly. When making contact covertly, there were hesitations, change in direction, cognitive thinking fillers in the talk of both the teacher and the students, and back channelling from the students. The

teacher also engaged in polyphony of voices mediating between the characters in history, the history text and the students. When overt contact was made, the dialogue was both generated and sustained through the actions of the participants. The interactions also generated talk of a type that promoted higher order thinking. This was achieved through the asking of open-ended questions and by the uptake of the students' contributions by the teacher. As a consequence these interactions were less predictable than that which occurred in the Normal stream. There were also fewer occasions when students initiated talk with the teacher and to their peers in order to add meaning to the class discussions. There were also fewer occasions when answers were rejected or students were criticised for their behaviour and there was less off-task talk, especially in group work, and fewer occasions of code-switching.

7.3 Critical episodes

Critical episodes did occur in all lessons, regardless of stream and pedagogy and these represented times when the students either engaged in higher order thought or contact was made between teachers and students with regard to historical concepts. However, the critical episodes that occurred in the lessons of the less-able students differed from that of the more able students. In the less-able classes critical episodes occurred when the teacher succeeded in obtaining the attention of the students or succeeded in the explanation of a historical event by drawing on the experience of the students and by giving concrete examples. In the case of the more-able students the critical episodes occurred when the teacher and students engaged, through interaction, in historical thinking processes. Critical episodes occurred when the student provided

a long turn or an unpredictable response to the teacher's open ended question and the teacher used the student's response as uptake for further development of the lesson. The critical episodes also occurred when the students proposed hypotheses or raised questions in order to contribute to the development of the lesson. Other critical incidents took place when the teacher established contact with the students covertly and engaged them in the interaction process. During such critical incidents the teacher and student talk was often disfluent and included hesitations, changes of direction, cognitive pauses, and pragmatic discourse markers. The students and teachers in such interactions seemed to show some mastery of the notion of the 'language game' that was required to be played. In other words they made the right moves within the interaction process so that historical interpretation occurred.

As noted above, the stream the students were in, and the pedagogy that the teachers adopted, influenced the nature of talk, the patterns of interaction and the extent to which the teacher and students interactions involved the interpretation of history. This finding has important implications for teachers, teacher trainers, and curriculum developers. It also provides some direction for future research in classroom interactional analysis.

7.4 Implications

From this research, it is apparent that the history teacher needs to have a wide repertoire of skills in order to engage students in historical thinking. One important skill to enable this to happen is for teachers to be able to adapt their language particularly for students of different ability. Skilful use of questioning is another skill.

For example, questions should be used not just to test recall, but also to stimulate students to think in divergent ways. Questions can also be used to scaffold information for the students. In this way questioning can be used to enable students to relate historical events to their own experience. According to Vygotsky (1981, 1986) this process enables the scaffolding of information, and as such, can take students to higher levels of understanding and beyond their current level of development. Questioning skills can also be used not only to engage the students in the process of historical thinking but also as a way of evoking empathy. This can be achieved if the teacher oscillates between the asking of closed inductive questions and open-ended discursive questions.

Apart from questions the teacher can also use other language skills for similar purposes. That is, they can use talk to stimulate their students' imagination and their empathy. They can also structure their talk so that adductive thinking and the interpretation of history can be achieved. In order to do so, the teacher must provide an "authorial voice" (Paxton, 1999) in order to keep the students engaged in the interaction process. The teacher can also use procedural talk not only to manage the class but also to manage the amount of information provided to the students.

History has always been regarded as a "language" subject. From this research, it is apparent that the language use of the teacher has an effect on the language behaviour of the students and vice versa. In addition, teachers can influence the type of interaction that occurs in the classroom just as much as students can influence the response of the teacher. As such, the findings of this study show how the teachers can

use the student's responses, and, that in turn, this uptake facilitates the type of class discussions that promote historical thinking.

Not only does history make great demands on the teacher, it also does likewise on the students. The students require a wide repertoire of skills to function effectively. They need to be able to initiate new questions, raise hypotheses, challenge generalities, contradict, qualify, reflect and monitor their thoughts. They also need communicative skills from both the cognitive and the affective domains such as the language of empathy, analysis and synthesis. Students of history have to possess and develop a level of verbal dexterity and confidence that enables them to communicate effectively in the classroom. As part of the historical thinking process, the students have to be able to empathise with people and events in history and be able to consider other perspectives and interpretations. From this research, it would appear that to enable this to occur opportunities need to be provided for students to participate in both teacher led discussions as well as small group discussions especially those based on divergent tasks.

Curriculum developers and teacher trainers also need to understand the skills required to present history for interpretation. It is important that they are aware of the classroom practices that generate historical thinking and understanding and that this is to be considered in balance with issues such as the management of large classes, completion of syllabuses and preparation for examinations. With respect to the particular context of Singapore, curriculum developers and teacher trainers need not only to incorporate the three initiatives laid down by the Ministry of Education, but to do so with consideration for the variable English language ability of Singapore

students. In relation to this, the curriculum developers need to build into their materials tasks that promote, rather than inhibit the interaction process in the classrooms, particularly interactions that lift students to a higher level of cognition.

7.5 limitations

The limitations of this research stem from its methodology, specifically that it included a small sample size and that the analysis was based on a category system.

Although the sample size of this study, which comprised twelve lessons, might appear small, and therefore lack a high degree of generalizability, the research is supported by a detailed and fine-grained analysis of the intricate complex dynamics of all the classroom discourse that occurred. In addition, claims made in the text, based on the analysis, were supported by more than 200 examples of talk between teachers and students. It might be noted that the inclusion of such an extensive representation of actual transcripts of discourse is rare and addresses the call that has been made in the literature by Edwards (Dickinson, 1986) namely that:

most classroom researchers have coded rather than recorded verbal interaction and few descriptions of teaching include much transcript material...we therefore know little about the language teachers and pupils normally exchange, and even less about the distinctive forms and functions associated with transmitting particular bodies of academic knowledge

(p.54)

To counter the limitation of small sample size this research included the recording, transcription and analysis of the whole 60 minutes of each of the 12 lessons. That is to say, the findings are based on the total, not selected parts, of the lessons, a limitation

apparent in a number of previously cited classroom research projects. The inclusion of the whole lesson enabled it to be examined in its entirety and as a consequence inferences could be based on all the complex interactions that occurred within the classroom. This addresses a call for such to happen made by Wilen and White (1991), who suggested a close study of contextual features of the interaction be made to enable a better understanding of the higher order thinking processes that occurs. This was undertaken in the present research.

At the same time, it must be acknowledged that the decision to investigate only twelve lessons was made for practical reasons, namely because of the extent of the transcription involved. Researchers who have carried out similar research (e.g., Nuthall, 1965) describe the onerous nature of such a task, providing evidence that it takes approximately twelve hours to transcribe a forty-minute lesson.

As noted, the analysis of the data was based on a category system. One of the limitations levelled at such a system has been that it is preconceived and as such does not capture everything that goes on in the classroom when compared to an ethnographic and an anthropological approach (Delamont, 1983). However, it should be noted that this claim encountered strong opposition by exponents of the systemic observational tradition such as McIntyre and MacLeod (in Delamont, 1984). In her 1984 edition, Delamont retracts some of her earlier observation and concluded that her earlier attack on the category system was strongly worded and that in fact a category system has implicit virtues.

The high inference nature of the category system used in this research is another possible limitation. Critics have raised the question how high is "High

another possible limitation. Critics have raised the question “How High is ‘High Inference?’” (Babad, 1996, p. 1). It is feared that when a high inference system is used in the coding, it can be subjective and qualitative. In an attempt to overcome this limitation, strong attempts have been made to maintain a high internal reliability. To this end, both intra and inter-reliability measures were undertaken, and these in fact indicated a consistent application of the categorization system.

7.6 Future research

Although a comprehensive attempt has been made to explore the nature of talk in history classrooms in Singapore, there are many issues that still remain unresolved. Researchers no longer perceive the classroom as a black box (Dunkin and Biddle, 1974; Long, 1984) because systemic observational tools of analysis have allowed the classroom to become an open fish bowl with immense research possibilities (Prabhu, 1987). It is hoped that this research is the beginning of a comprehensive exploration of classroom discourse and interaction in Singapore classrooms. This area of research is vital if quality interaction between teachers and students is to occur between teachers and students in the classroom. Some of the more specific issues which require further research in the classroom are of two types: namely issues of pedagogy and with a particular emphasis on classroom strategies, and, issues related to the language demands of the subject history.

With respect to pedagogy in Singapore, one of the first issues that requires further investigation is how Singapore teachers might meet the challenges presented by

classrooms with large student numbers. Soh (1999) in his examination of the variables contributing to the study of Mathematics and Science states that,

the positive correlation between TIMSS (Third International Mathematics and science studies) achievement and large class size seems to be contrary to common-sense as advocates would argue that small class size will allow for more individual attention and hence performance of the students as a whole.

(p. 126)

He calls for further study to help us understand this phenomenon. An understanding of this phenomenon would provide important evidence about the skills that Singapore teachers require and the strategies that they can adopt to generate talk in classes with large student numbers.

The general challenges that teachers face in whole class discussion has been examined in other studies by Wilen (1990) and Howe (1988). Howe (1988) states,

...whilst there are difficulties in using whole class discussion as a means whereby pupils can come to greater understanding and begin to learn to express themselves in a situation which places a greater degree of stress upon them, nevertheless, it does possess great potential and should not be discarded.

(p.7)

He suggests a need for practical approaches to help teachers manage whole class discussions. The importance he places on developing this teaching 'repertoire' is so great that he equates the need to the imperative for an orchestra to have a conductor. The present research also indicates the need for further research on how teachers might develop this repertoire of skills.

There is also an urgent need for research to examine the language needs of students in various content subjects, including history (Torbe, 1981). Whilst history teaching involves pedagogy about a form of knowledge (Hirst, 1974) it also includes a particular genre of language. The question remains as to what extent the subject history allows for the teaching of such forms of talk. This is an area for future exploration. In addition, it is hoped that the current study is the beginning of further research into the nature of that form of thoughtful talk (Coltham, 1971) or as referred to in this thesis the propositional talk (Shemilt, 1983), used by students in the discussion of history in the classroom. At present, little is known about this form of talk, although it is apparent that it is distinct in many ways.

Another issue which requires further research and which is in some ways linked to the above is the extent to which language aids or acts as a barrier in the teaching and learning of history, particularly with respect to students of different learning abilities. For instance, further research is required to explore the extent to which Normal stream students are disadvantaged by their lack of dexterity in language. Research is also required to explore what strategies can be used to overcome these possible disadvantages. Questions such as, would electronic talk such as that which occurs in collaborative 'chats' and e-mails provide an alternative tool for such students to interact with one another and with the teacher might be considered. Current research in the second language acquisition field suggests a potential for this e.g., Warschauer (1997). However, whether the same is true for history students is as yet unknown.

There is also a need to understand the meta-cognitive language associated with the thinking processes of students. Although there is research to show that meta-cognitive awareness helps pupils to become better learners (Chamot and O'Malley, 1994) and that the best tool for generating this meta-cognitive knowledge is through discussion (Coltham, 1971), much more research is required to explore how this meta-cognitive language can be identified, how it might be taught to students and how in turn they might learn and internalise this in order to interact effectively in the thinking processes. Can students, for example, be taught the language of deductive reasoning through the use of connectives such as 'if...so...if...how/ if when, I think...I beg to differ' or by teaching them the use of 'hedging' (i.e., tentative language)? These are areas requiring future research.

Intuitively, and based on the evidence of the current research, it seems that the subject history provides a useful context for teaching the language of probability, the complexities of questioning, the language for problem solving (Hoodless, 1994) and the complex language of analysis, synthesis, and hypotheses raising and testing (Hirst, 1974). However, much further research is required to test the veracity of this claim.

Finally, it is hoped that this research will stimulate teachers to reflect on their classroom practices and they may use this work as a basis for employing action research to investigate what happens in their classrooms, to instigate change in pedagogy through the employment of alternative strategies and interactions. In a similar way it is also hoped that this research may be useful for teacher trainers, as a means of informing novice teachers about the dynamic and intricate relationship of talk and thinking, and about the powerful interactions that occur in classrooms.

References

- Amidon, E. J., & Hunter, E. (1966). *Improving teaching: The analysis of classroom verbal interaction*. New York: Holt Rinehart & Winston.
- Amidon, E. J., & Hough, J. B. (Eds.). (1967). *Interaction analysis, theory, research and application*. Reading, PA: Addison-Wesley.
- Amidon, E. J., & Flanders, N. (1971). *The role of the teacher in the classroom: A manual for understanding and improving teacher classroom behavior*. Chicago: Association for Productive Teaching.
- Appleby, J., Hunt, L., & Jacob, M. (1994). *Telling the truth about history*. New York: W. W. Norton.
- Ashby, R. & Lee, P. (1987). Discussing the evidence. *Teaching History*, 48, 13-17.
- Babad, E. (1996). How high is high inference? Within classroom differences in students' perceptions of classroom interaction. *Journal of Classroom Interaction*, 31(1), 1-9.
- Bakhtin, M. M. 1981. The dialogic imagination. In M. Hoiquist (Ed.), *Four essays* (pp. 259-300). Austin: University of Texas Press.
- Ballard, M. (1970). *New movements in the study and teaching of history*. London: Maurice Temple Smith.
- Barker, B. (1978). Understanding in the classroom. In K. L. Dickinson & P. J. Lee (Eds.), *History teaching and historical understanding* (pp.121-133). London: Heinemann.
- Barnes, D. (1976). *From communication to curriculum*. London: Penguin.
- Barnes, D., Britton, J., & Torbe, M. (1986). *Language, the learner and the school*. London: Penguin.
- Barnes, D. (1992). *From communication to curriculum*. Portsmouth NH: Boynton/Cook..
- Barnes, D., & Todd, F. (1995). *Communication and learning revisited: Making meaning through talk*. Portsmouth NH: Boynton/Cook.
- Barton, K. (1996). Narrative simplification in elementary children's historical understanding. In J. Brophy (Ed.), *Advances in research on teaching: Vol 6* (pp.51-83). Greenwich,CT: JAI Press.

- Bellack, A., Hyman, R., Smith, F., & Kliebard, H. (1966). *The language of the classroom*. New York: Columbia University Press.
- Biddle, B. J., Good, T. L., & Goodson, I. F. (1997). *International handbook of teachers and teaching*. Boston: Kluwer Academic.
- Bloom, B. E. A. (1971). *Handbook on formative and summative evaluation of student learning*. New York: Macgraw Hill.
- Blumenfield, P. C., Marx, R. W., Patrick J. S., Krajcik, P., & Soloway, E. (1997). Teaching for understanding. In B. J. Biddle, T. L. Good & I. F. Goodson (Eds.), *International handbook of teachers and teaching* (pp. 824-847). Boston: Kluwer Academic.
- Booth, M. B. (1978). Children's inductive historical thought. *Teaching History*, 12(21), 3-8.
- Booth, M. B. (1983). Skills, concepts and attitudes: the development of adolescent children's historical thinking. *History and Theory*, 22(4) 101-117.
- Booth, M. B., Culpin, C., & Macintosh, H. (1987). *Teaching GCSE history*. London: Hodder & Stoughton.
- Booth, M. B., (1987). Ages and concepts: A critique of the Piagetian approach to history teaching. In C. Portal (Ed.), *The history curriculum for teachers* (pp. 22-38). Philadelphia: Falmer Press.
- Booth, M. B. (1993). Students' historical thinking and national history curriculum in England. *Theory and Research in Social Education*, 21, 105-127.
- Booth, M. B. (1994). Cognition in history: A British perspective. *Educational Psychologist*, 22, 61-69.
- Britt, M. A., Rouet, J., Georgi, M. C., & Perfetti, C. A. (1994). Learning from history texts: From casual analysis to argument models. In G. Leinhardt, I. L. Becks, & C. Stainton (Eds.), *Teaching and learning history* (pp.47-84). Hillsdale, NJ: Lawrence Erlbaum Association.
- Britton, J. (1970). *Language and learning*. Miami: University of Miami Press.
- Brophy, J. & VanSledright, B. (1997). *Teaching and learning history in elementary schools*. New York: Teachers College, Columbia University.
- Brophy, J. & Good, T. L. (1997). *Looking in classrooms*. New York: Longman.
- Brophy, J. (2001). *Subject - specific instructional methods and activities*. Amsterdam: JAI Press.

- Brophy, J. (2002). Social constructivist teaching: Affordances and constraints. *Advances in Research on Teaching*, 9 (pp.1-25). Amsterdam: JAI Press.
- Bruner, J. (1960). *The process of education*. Cambridge: Harvard University Press.
- Bruner, J. (1971). *The relevance of education*. New York: Norton.
- Brophy, J. (1990). Teaching social studies for understanding and higher-order applications. *Elementary School Journal*, 90, 351-417.
- Candela, A. (1999). Students' power in classroom discourse. *Linguistics and Education*, 10(2), 141-163.
- Carey, S. (1985). *Are children fundamentally different kinds of thinkers and learners than adults?* In S. F. Chipman, J. W. Segal & R. Glaser (Eds.), *Thinking and learning skills 2* (pp 485 – 517). Hillsdale, NJ: Erlbaum.
- Cazden, C. B., John, V. P., & Hymes, D. H. (1972). *Functions of language in the classroom*. NY: Teacher's College Press.
- Cazden, C.B. (1986). *Classroom discourse*. In M.C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 432- 463). New York: Macmillan
- Cazden, C. B. (1988). *Classroom discourse: The language of teaching and learning*. Portsmouth NH: Heinemann.
- Chamot, A., & O'Malley, J. (1994). *The CALLA handbook : How to implement the cognitive academic language learning approaches*. Reading, MA: Addison-Wesley.
- Chang, A. S. C. (1995). *Confucianism in juxtaposition with modernity in the Singapore classroom*. Singapore: National Institute of Education.
- Chang, A. S. C., & Ho, W. K. (1992). *Singapore students are rote learners fact or myth*. Curriculum Research and Practice: Cauldron or Crucible? Toh Kok Ann (Ed.), *Proceedings of the 6th Annual Conference of the Educational Research Association*. Singapore: Educational Research Association.
- Collingwood, R. G. (1946). *The idea of history*. London: Oxford University Press.
- Collins, J. (1982). Discourse style, classroom interaction and differential treatment. *Journal of Reading Behavior*, 14(4), 429-437.
- Coltham, J. B. (1975). *The development of thinking and learning of history*. London: Historical Association.
- Coltham, J. B., & Fines, J. (1971). *Educational objectives for the study of history: A suggested framework*. London: Historical Association.

- Cooper, H. (1992). *The teaching of history: Implementing the national curriculum*. London: David Fulton.
- Cooper, P. McIntyre, D. (1996). The importance of power sharing in classroom learning. In M. Hughes (Ed.), *Teaching and learning in changing times* (pp.88-108). Oxford: Blackwell.
- Cooper, P. & Simonds, C. (1999). *Communication for the classroom teacher*. London: Allyn & Bacon.
- Croll, P. (1986). *Systematic classroom observation*. London: Falmer Press.
- Curriculum Planning & Development Division, (1997). *The thinking program: Infusing thinking into lower secondary history*. Singapore: Ministry of Education.
- Curriculum Planning & Development Division, (1998). *The thinking program: Explicit teaching of thinking* (Teachers' manual- Secondary Two). Singapore: Ministry of Education.
- Curriculum Planning & development Division (CPDD) 2000. *History syllabus secondary one to two*. Singapore: Ministry of Education.
http://www1.moe.edu.sg/syllabuses/doc/history_LowerSec.pdf.
- Dance, E. H. (1970). *The place of history in secondary teaching*. London: George G. Harrap.
- Delamont, S. (1983). *Interaction in the classroom*. (2nd ed.). London: Methuen.
- Delamont, S. (1984). *Readings on interaction in the classroom*. London: Methuen.
- Derrida, J. (1999). *Stanford presidential lectures and symposia in the humanities and arts*. Retrieved 20 May, 2003, from <http://prelectur.stanford.edu/lectureres/index>.
- Dickinson, A. K. & Lee, P.J. (1978) (Eds.). Understanding and research. In *History teaching and historical understanding*. (pp. 94-120). London: Heinemann.
- Dillon, J. (1983). Teaching and the art of questioning. *Phi Delta Kappa Educational Foundation, 194*. Bloomington: Phi Delta Kappa.
- Dillon, J. (1984). Research on questioning and discussion. *Educational Leadership, 42*, 50-56.
- Duncan (1972). Some signals and rules for taking speaking turns in conversations. *Journal of Personality and Social Psychology, 23*(2), 286-288.
- Downey, M., & Levstik, L. (1991). *Teaching and learning history*. New York: Macmillan.

- Dunkin, M. J., & Biddle, B. J. (1974). *The study of teaching*. New York: Holt, Rinehart and Winston.
- Educational Technology Division, Singapore Ministry of Education. (2002). Masterplan 2. Retrieved 20 May, 2003, from http://www.moe.gov.sg/edumall/mp2/mp2_overview.htm.
- Edwards, A. D. & Furlong, V. J. (1978). *The language of teaching*. London: Heinemann.
- Edwards, A. D., & Westgate D. P. G. (1987). *Investigating classroom talk*. London: Falmer Press.
- Edumall, 2002. *Educational Technology Division*. Singapore: Ministry of Education.
- Emerson, C. (1983). The outer word and inner speech: Bakhtin, Vygotsky, and the internalization of language. *Critical Inquiry*, 10(2), 245-264.
- Ericsson, K. & Hastie, R. (1994). Contemporary approaches to the study of thinking and problem solving. In R. Sternberg (Ed.), *Thinking and problem solving*. (pp.37-49). London: Academic Press.
- Evans, R. W. (1988). Lessons from history: Teacher and student conceptions of the meaning of history. *Theory and Research in Social Education*, 16, 203-225.
- Evertson, C. M., & Green, J. L. (1986). Observations as inquiry and method. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp.162-213). New York: MacMillan.
- Fitzgerald, J. (1982). History 13-16: Some Australian applications. *Teaching History* 16(3), 36-57.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin* 41, 237-258
- Flanders, N. (1960). *Interaction analysis in the classroom: A manual for observers*. (Rev. ed.). Abore: School of Education, University of Michigan.
- Flanders, N. (1967). Some relationships among teacher influence, pupil attitudes, and achievement. In E. J. Amidon & J.B. Hough, (Eds.), *Interaction analysis: theory, research and application* (pp.217-242). Reading, MA: Addison-Wesley.
- Flanders, N. (1970). *Analyzing teaching behavior*. Reading, MA: Addison -Wesley.
- Foucault, M. (1969). *The archaeology of knowledge*. NY: Pantheon Books.
- Freedman, W. S. (1998). Foreword: Voicing ourselves. In C. Knoeller (Ed.), *Whose words we use when we talk about books*. New York: State University.

- Gage, N. I. (1963). *Handbook of research on teaching*. Chicago: Rand McNally.
- Garvey, B. & Krug, M. (1978). *Models of history teaching in the secondary school, 11* (1), pp.101-102. Oxford: Oxford University press.
- Gallagher, J. J. Nuthall, G., & Rosenshine, B. (1970). *Classroom observation*. AERA Monograph Series on Curriculum. Chicago, IL: Rand McNally.
- Gear Up for Thinking Schools. (1997, July 31). *The StraitsTimes*, pp.1.
- Gelman, R., & Baillargeon, R. (1983). A review of some Piagetian concepts. In J. H. Flavell & E. M. Markman (Eds), *Handbook of Child Psychology* 3(pp.167-230). New York: Wiley.
- Gee, J. (1989). What is literacy? *Journal of Education*, 171, 18-25.
- Geok, T. B. (2001). *Thinking in history*. Singapore: National Technological University,
- Goh, C. T. (1997). *Shaping our future: Thinking schools and a learning nation. Speeches* 21(3) 12-20. Singapore: Ministry of Education.
- Good, T., & Brophy, J. (2000). *Looking in classroom* (8th ed.). New York: Longman.
- Good, T., & Brophy, J. (2001). *Looking in classrooms* (9th ed.). New York: Longman.
- Gumperz, J. J. & Hymes, D. (Eds.), (1972). *Directions in sociolinguistics: The ethnography of communication*. New York: Holt, Reinhart and Winston.
- Gumperz, J. J. (1982). *Discourse strategies*. London: Cambridge University Press.
- Hallam, R. N. (1970). Piaget and thinking in history. In M. Ballard (Ed.), *New movements in the study and teaching of history* (pp. 162-178). London: Temple Smith.
- Halliday, M. (1973). *Explorations in language study series*. London: Edward, Arnold.
- Halliday, M. (1975). *Learning how to mean*. London: Edward, Arnold.
- Harashim, L. (1990). Online education: An environment for collaboration and intellectual amplification. In L. Harashim (Ed.), *On line education: Perspective on a new environment* (pp. 39-64). New York: Praeger.
- Harnad, S. (1991). Post -Gutenberg galaxy: The fourth revolution in the means of production and knowledge. *Public-Access Computer Systems Review*, 2(1), 39-57.
- Hargreaves, A. (1994). *Changing teachers, changing times: Teachers work and culture in a postmodern age*. London: Cassell.
- Hasan, R. (1996). *Ways of saying: Ways of meaning*. London: Cassell.

- Hasan, R. & Williams, G. (1996). *Literacy in society*. London: Longman.
- Haydn, T., Arthur, J. & Hunt, M. (1997). *Learning to teach history in the secondary school*. London: Routledge.
- Hean, T. C. (1998). *Work plan seminar on education*, Singapore Ministry of Education. Retrieved 20 June, 2002, from <http://www1.moe.edu.sg/press/1998/5sep98.htm>
- Hirst, P. H. (1974). *Knowledge and the curriculum*. London: Routledge.
- Hoetker, J., & Ahlbrand, W. Jr. (1969). The persistence of the recitation. *American Educational Research* 6, 145-167.
- Hoffman, D. M. (2000). Pedagogies of self in American and Japanese early childhood education: A critical conceptual analysis. *The Elementary School* 101(2), 193-208.
- Holt, T. (1990). *Thinking historically: Narrative, imagination, and understanding*. New York: College Entrance Examination Boards.
- Howe, A. (1988). *Expanding horizons: Teaching and learning through whole class discussion*. England: National Association for the Teaching of English.
- Hoodless, P. (1994). Language use and problem solving in primary history. *Teaching History*, 76, 19 - 22.
- Holtzman, S. & Leich, C. (Eds). (1981). *Wittgenstein: To follow a rule*. London: Routledge.
- Husbands, C. (1996). *What is history teaching*. Buckingham: Open University Press.
- Hymes, D. (1978). *Functions of language in the classroom*. In C. B. Cazden, V. P. John, & D. H. Hymes. (Eds.). New York: Teachers' College Press.
- Issac, R. (1994). Critical history. *Teaching History*, 19, 17-19.
- Jenkins, K. (1992). *Re-thinking history*. New York: Routledge.
- Jenkins, K. (1998). *The postmodern history reader*. New York: Routledge.
- Jenkins, K. (1999). *Why history: Ethics and post modernity*. NY: Routledge.
- Jones, P. (1990). *Lip-service: The story of talk in schools*. Philadelphia Open University Press
- Keeves, J. P. (1997). *Educational research, methodology and measurement: An international handbook*. (2nd ed.). New York: Permagon

- Khoo, R. (1988). *Interaction dynamics of classroom discourse*. Unpublished PhD thesis, Murdoch University, Western Australia.
- King, L., Barry, K., Maloney, C., & Tayler, C. (1993). *The Makitab small-group learning interaction analysis system* (technical report). Perth, Western Australia: Edith Cowan University.
- King, L., Barry, K., Maloney, C., & Tayler, C. (1996). *Promoting higher cognitive level talk during cooperative learning*. Perth, Western Australia: Edith Cowan University.
- Klinzing, H. & Klinzing-Eurich, G. (1988). Questions responses and reactions In J. T. Dillion (Ed.), *Questioning and discussion. A multi disciplinary study* (pp.212-239). Norwood NJ: Ablex.
- Knight, P. (1996). Research and the improvement of school history. In J. J. Brophy (Ed.), *Teaching and Learning*, 6(41). JAI Press.
- Knoeller, C. (1998). *Voicing ourselves*. New York: New York Press.
- Kumaravadivelu, B. (1999). Critical classroom discourse analysis. *TESOL Quarterly*, 33(3), 453-471.
- Lee, J. P. (1983). Teaching and philosophy of history. *The Philosophy of History Teaching*, 22(4), 19-49.
- Lee, J. P. (1997). Language in thinking and learning: Pedagogy and the new Whorfian framework. *Harvard Educational Review*, 67(3), 330 - 467.
- Lemke, J. L. (1995). *Textual politics: Discourse and social dynamics*. London: Taylor & Francis.
- Leung, F. K.S. (2000). *In search of an east Asian identity in mathematics Education: The legacy of an old culture and the impact of modern technology*. Paper presented at the 9th International Congress on Mathematics Education Tokyo/Makuhari, Japan. The University of Hong Kong.
- Levine, N. 1981. *History: Language teaching and learning*. London: Ward Lock.
- Levstik, L & Pappas, C. (1987). Exploring the development of historical understanding. *Journal of Research and Development in Education*, 21(1), 1-15
- Lim, S. (1980). *Verbal and nonverbal communication in the Singapore classroom*. A paper presented at the SEAMEO Regional Language center. Unpublished. Singapore: Regional English Language Centre.

- Lim, S. (1985). *An analysis of teacher-led discussion lessons in junior colleges in Singapore*. Unpublished master's thesis, National University of Singapore.
- Long, M. H. (1980). "Inside the black box". Methodological issues in classroom research: Research on language learning. *Language Learning*, 30(1) 1-42.
- Van Lier, L. (1996). *Interaction in the language curriculum: Awareness, autonomy, and authenticity*. London: Longman.
- Loh, G. (1997). Enhancing thinking in history. (Paper presented at the seventh international conference on thinking 1997, Singapore).
- Mandler, J.M. (1983). Representation. In J. H. Flavell and E. M. Markman (Eds.), *Cognitive development*, 3, 420-494. NY: John Wiley.
- Marke, M. (1997). *Classroom power relations* London: Lawrence Erlbaum.
- Mac Issac, T. (1996). From Collingwood to the teaching of historical thinking. *Teaching History*, 84 (June), 15-18.
- McCullagh, C. B. (1998). *The truth of history*. London : Routledge.
- Malcolm, I. (1986). Classroom interaction analysis and the teacher: Guidelines. *Classroom Interaction*, 8(2), 1-30.
- Marzano, R. J., Brandt, R., Hughes, C., Jones, B. F., Presseisen, B., Rankin, S., & Suhor, C. (1988). *Dimensions of thinking: A framework for curriculum and instruction*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Marzano, R. J., (1992). *A different kind of classroom: Teaching with dimensions of learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Mibenga, K. B. (1993). Skilful questioning as an effective tool of history teaching. *Teaching History*, 7, 23-24.
- McInerney, M. & McInerney (1994). *Educational psychology, constructing learning*. Sydney: Prentice Hall.
- Medley, D. & Mitzel, H. (1963). Measuring classroom behavior by systematic observation. In N. L. Gage (Ed.), *Handbook of research on teaching* (pp. 247-328). Chicago: Rand McNally.
- Mehan, H. (1978). Structuring school structure. *Harvard Educational Review*, 48 (1), 32-64.
- Mehan, H. (1979). *Learning lessons: Social organization in the classroom* Cambridge, MA: Harvard University Press.

- Morris, P. (1994) (Ed.). *The Bakhtin reader, selected writings of Bakhtin, Medvedev and Voloshinov*. London: Edward Arnold.
- Munslow, A. (1997). *Deconstructing history*. London: Routledge.
- Newmann, F. (1987). *Higher order thinking in the high school curriculum*. Paper presented at the annual meeting of the National Association of Secondary School Principals, San Antonio, TX.
- Newmann, F., Onosko, J., & Stevenson, R. (1990). Teaching thoughtfulness. *Journal of Curriculum Studies*, 22, 253-275.
- Newmann, F. (1991). Promoting higher order thinking in social studies: Overview of a study of sixteen high school departments. *Theory and Research in Social Education*, 19(4), 324-340.
- Nichol, J. (1984). *Focus on education series teaching history: A teaching skills workbook*. London: Education Macmillan.
- Nickerson, R. S. (1988). On improving thinking through instruction. In C. B. Cazden, (Ed.), *Review of Research in Education*, 15 (pp. 3-57). Washington, DC : American Educational Research Association.
- Nunan, D. (1993). *Introducing discourse analysis*. London: Penguin.
- Nuthall, G. A., & Lawrence, P. J. (1965). *Thinking in the classroom: The development of a method of analysis*. Wellington: New Zealand Council for Educational Research.
- Nuthall, G. A. (1997). Understanding student thinking and learning in the classroom. In B. J. Biddle, T. L. Goud, & I. F. Goodson (Eds.), *International handbook of teachers and teaching 2* (pp. 681-769). Dordrecht, Netherlands: Kluwer Academic Publishers.
- Nuthall, G. (2002). Social constructivist teaching and the shaping of students' knowledge and thinking. In J. Brophy (Ed.). *Advances in research on teaching* 9 (pp.43-76). Greenwich CT: JAI Press
- O'Keefe, V. (1995). *Speaking to think and thinking to speak*. London: Heinemann.
- Onosko, J. J. (1990). Comparing teachers' instruction to promote students' thinking. *Journal of Curriculum Studies*, 22(5), 443-461.
- Paxton, R. J. (1999). A deafening silence: History textbooks and the students who read them. *Review of Educational Research*, 69(3), 315-339.
- Pendry, A., Husbands, C., Arthur J., & Davison, J. (1998). *History teachers in the making*. Buckingham, Philadelphia: Open University Press.

- Prabhu, N. S. (1987). *Second language pedagogy*. Oxford: Oxford University Press.
- P M spells out formula for Singapore. (1997, June 3). *The Straits Times*, p.1.
- Piaget, J. (1975). *The development of thought*. Oxford: Basil Blackwell.
- Raths, L. E., Wasserman, S., Jonas, A., & Rothstein, A. (1986). *Teaching for thinking. Theory, strategies and activities for the classroom*. New York: Teachers College, Columbia University.
- Resnick, L. B. (1987). *Education and learning to think*. Washington, DC: National Academy Press.
- Resnick, L. B. (1989). Introduction. In L.B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honour of Robert Glaser* (pp.1-24). Hillsdale, NJ: Erlbaum.
- Robinson, H. (1994). *The ethnography of empowerment*. WA: Falmer Press.
- Saville - Troike, M. (1982). *The ethnography of communication. An introduction*. Oxford: Blackwell.
- Shemilt, D. (1980). *Evaluation study: Schools Council History 13-16 Project*. Edinburgh: Holmes Mc Dougall.
- Shemilt, D. (1983). The devil's locomotive. *History and Theory*, 22(4), 1-18 .
- Shemilt, D. (1984). Beauty and the philosopher: Empathy in history and classroom. In A. K. Dickinson, P. J. Lee & P. J. Rogers (Eds.), *Learning History* (pp.39-83). London: Heinemann.
- Shulman, L. S. (1981). Disciplines of inquiry in education: An overview. *Educational Researcher*, June/July, (5-12).
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Sinclair, J., & Coulter, R. M. (1982). *Towards an analysis of discourse*. London: Routledge.
- Smith, J. (1990). *A questioning approach to study skills in history*. London: The Historical Association.
- Soh K. C. 1999. Three Gs and three little Asian Dragons in TIMSS Mathematics at the Fourth Grade. *The Mathematics Educator*, 4(2), 126-137.
- Steele, I. (1976). *Developments in history teaching*. London: Open Books.

- Sternberg, R. J., & Sperling, L. S. (1996). *Teaching for thinking*. Washington, DC: American Psychological Association.
- Stevenson, H. W., & Lee, S. (1997). *The east version of whole class teaching*. New York: Suny Press.
- Stevenson, H. W., & Stigler, J. W. (1992). *The learning gap: How our schools are failing and what we can learn from Japanese and Chinese education*. New York: Touchstone.
- Stodolsky, S. S. (1988). *The subject matters: Classroom activity in math and social studies*, Chicago, IL: University of Chicago Press.
- Stubbs, M. (1976). *Language, schools and classroom*. New York: Methuen.
- Stubbs, M., & Delamont, S. (1986). *Exploration in classroom observation*. London: Wiley.
- Stubbs, M. (1983). *Discourse analysis*. Oxford: Basil Blackwell.
- Swartz, R. & Parks, S. (1994). *Infusing critical and creative thinking into content instruction for elementary teachers*. Pacific Grove, California: Critical Thinking Press.
- Taba, H., Durkin, M. C., Fraenkel, J. R., & McNaughton, A. H. (1971). *A teacher's handbook to elementary social studies: An inductive approach (2nd ed.)*. Reading, PA: Addison -Wesley.
- The History Teacher (1995). Singapore: Ministry of Education publication
- The History Teacher (2001). Singapore: Ministry of Education publication.
- Tan B. G. I. (2000). *Thinking in history, engaging students in meaningful learning*. Unpublished master's thesis Nanyang Technological University, Singapore.
- Teo, C. H. (1998). Intellectual capital as a key tool in advancing Asian modernisation. (*A speech delivered at the 1998 East Asia Economic Summit, World Economic Forum, Suntec city*), Singapore.
- Thornton, S. J. (2001). Subject-specific teaching methods: History. In J. Brophy (Ed.), *Advances in research on teaching: Vol 8* (pp.291-314). Greenwich, CT: JAI Press.
- Thuraisingam, P. (1982). Teaching styles and classroom interaction in history teaching. In A. Chamberlain & T. Llamzon (Eds.), *Studies in classroom interaction. occasional papers 20* (pp.106-141). Singapore: Regional English Language center.

- Thuraisingam, P. (1990). *Language use of teachers in the history classroom and its effect on secondary school pupils*. Unpublished master's thesis, National University of Singapore.
- Thuraisingam, P. (1997). *Exploratory talk of pupils in the history classroom*. Unpublished master's thesis, National University of Singapore.
- Toffler, A. & Toffler, H. (1994). *Creating a new civilization: The politics of the third wave*. New York: Morrow.
- Toh, K. A. (1994). Teacher - centred teaching is alive and well. *Teaching and learning*, 15(1), 12-17.
- Tong, G. C. (1997). Thinking schools, learning nation. Paper presented at the 7th International Conference on Thinking. Singapore.
- Tripp, D. (1993). *Critical incidents in teaching: Developing professional judgement*. London: Routledge.
- Van Lier, L. (1996). *Interaction in the language curriculum: Awareness, autonomy, and authenticity*. London: Longman
- Van Lier, L. & Corson, D. (1997). Knowledge about language. In D. Corson (Ed.), *Encyclopedia of language and education: Vol 6* (pp. 151-159). Boston: Kluwer Academic.
- Vansledright, B. A. & James J. H. (2002). Constructing ideas about history in the classroom: The influence of competing forces on pedagogical decision making. In J. Brophy (Ed.), *Advances in Research on Teaching 9* (pp. 263-299). Boston: JAI Press.
- Varela, M., Luster, B., & Wenzel, S. (1999). Meaning making in a community of learners: Struggles and possibilities in an urban science class. *Research in Science Education*, 29(2), 227-245.
- Vockell, E. & Deussen, R. (1989). *The computer and higher order thinking skills*. Watsonville, CA: Mitchell Publishing.
- Vygotsky, L. (1981). *Thought and language*. Cambridge: M.I.T. Press
- Vygotsky, L. (1986). *Thought and language* (revised). Cambridge: M.I.T. Press.
- Warchauer, M. (1997). Computer-mediated collaborative learning: theory and practice. *The Modern Language*, 81(4), 470-480.
- Warren, B., Rosebury, A. S., Warren, B. R., & Anne S. (1989). *Understanding history (Technical Report no. 458)*. Illinois: Centre for the Study of Reading.

- Warschauer, M. (1995). *Email for English teaching: Bringing the internet and computer learning network into the language classroom*. Alexandria, VA: TESOL Publications.
- Warschauer, M. (1997). Computer - mediated collaborative learning: Theory and practice. *Modern Language Journal*, 81, 470-480.
- Wells, G. (1981). *Learning through interaction*. London: Cambridge University Press.
- Wells, G. (1985). *Language development in the pre-school years*. London: Cambridge University Press.
- Wells, G. W., & Wells, G. L. (1992). *Constructing knowledge together: Classrooms as centres of inquiry and literacy*. Portsmouth, NH: Heinemann Educational Books.
- Wells, G. (2002). Learning and teaching for understanding: The key role of collaborative knowledge building. In J. Brophy (Ed.), *Advances in Research on Teaching, Vol 9* (pp.1-41). Amsterdam: JAI Press.
- Wertsch, J. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA : Harvard University Press.
- Wertsch, J. (1991). *Voices of the mind*. London: Harvester, Wheatsheaf.
- White, H. V. (1978). *Tropics of discourse: Essays in cultural criticism*. London: Hopkins University Press.
- Wilén, W. (1990). Forms and phases of discussion. In W. Wilén (Ed.), *Teaching and learning through discussion* (pp.3-24). Springfield, IL: Charles C. Thomas.
- Wilén, W., & White, J. (1991). *Interaction and discourse in social studies classroom*. New York: Macmillan.
- Windschuttle, K. (1994). *The killing of history: How a discipline is being murdered by literary critics and social theorists*. Sydney: Macleay Press.
- Wineburg, S. S., & Wilson, S. M., (1991). Subject -matter knowledge in the teaching of history. In J. Brophy (Ed.), *Advances in Research on Teaching: Vol. 2* (pp.305-347). Amsterdam : JAI Press.
- Wineburg, S. S. (1991). Historical problem solving: A study of the cognitive processes used in the evaluation of documentary and pictorial evidence. *Journal of Educational Psychology*, 83, 73-87.
- Wittgenstein, L. (1972). *Philosophical investigations*. Oxford: Basil Blackwell & Mott.

- Wood, D. & Wood, H. (1988). Questioning vs. student initiative. In J. T. Dillion (Ed.), *Questioning and discussion: A multidisciplinary study* (pp.280-305). Norwood, NJ: Ablex
- Wood, D. (1988). *How children think and learn*. Oxford: Blackwell.
- Young, R. (1992). *Critical theory and classroom talk*. UK: Multilingual Matters
- Zophy, J. W. (1998). Lost in cyberspace: Some concerns about televised instruction: *The history teacher*, 31. Retrieved 10 January 1998 from [http://fx:stsearch.oclc.org/FSIP?sjci=0018-2745%](http://fx:stsearch.oclc.org/FSIP?sjci=0018-2745%27)

Appendix A

[Amidon, E.J. and Hunter, E. (1966 p.210-21)]

THE VERBAL INTERACTION CATEGORY SYSTEM (VICS)

| | |
|-------------------------------|--|
| <i>Teacher-Initiated Talk</i> | <ol style="list-style-type: none"> 1. Give Information or Opinion: presents content or own ideas, explains, orients, asks rhetorical questions. May be short statements or extended lecture. 2. Give Direction: tells pupil to take some specific action; gives orders; commands. 3. Ask Narrow Question: asks drill questions, questions requiring one or two word replies or yes-or-no answers; questions to which the specific nature of the response can be predicted. 4. Ask Broad Question: asks relatively open-ended questions which call for unpredictable responses; questions which are thought-provoking. Ape to elicit a longer response than 3. |
| <i>Teacher Response</i> | <ol style="list-style-type: none"> 5. Accepts: (5a) Ideas: reflects, clarifies, encourages or praises ideas of pupils. Summarizes, or comments without rejection. (5b) Behavior: responds in ways which commend or encourage pupil behavior. (5c) Feeling: responds in ways which reflect or encourage expression of pupil feeling. 6. Rejects: (6a) Ideas: criticizes, ignores or discourages pupil ideas. (6b) Behavior: discourages or criticizes pupil behavior. Designed to stop undesirable behavior. May be stated in question form, but differentiated from category 3 or 4, and from category 2, Give Direction, by tone of voice and resultant effect on pupils. (6c) Feeling: ignores, discourages, or rejects pupil expression of feeling. |
| <i>Pupil Response</i> | <ol style="list-style-type: none"> 7. Responds (7a) Predictably: relatively short replies, usually, which follow category 3. May also follow category 2, i.e. "David, you may read next." (7b) Unpredictably: replies which usually follow category 4. 8. Responds to Another Pupil: replies occurring in conversation between pupils. |
| <i>Pupil-Initiated Talk</i> | <ol style="list-style-type: none"> 9. Initiates Talk to Teacher: statements which pupils direct to teacher without solicitation from teacher. 10. Initiates Talk to Another Pupil: statements which pupils direct to another pupil which are not solicited. |
| <i>Other</i> | <ol style="list-style-type: none"> 11. Silence: pauses or short periods of silence during a time of classroom conversation. 12. Conclusion: considerable noise which disrupts planned activities. This category may accompany other categories or may totally preclude the use of other categories. |

Appendix B

Social and Cognitive Functions of Learning Conversations Burnes & Todd (1995 p.79)]

| Level one | | Level two |
|---|--|---|
| <i>Discourse Moves</i> | <i>Social Domains</i> | |
| Initiating Extending, Qualifying, Contradicting Eliciting Continue, Expand, Bring in, Support, Request information, Responding, Accepting | Progress through task | Clarifying given questions Shifting topic Ending a discussion, Managing a manipulative task |
| | Competition and conflict | Competition for the floor, Contradiction, Joking, Compelling participation |
| <i>Logical Process</i> | <i>Cognitive Process</i> | |
| Proposes a cause Proposes a result, Expands locally (e.g., descriptive details) Apply a principle to a case, Categorises, States condition under which statement is valid or invalid, Advances evidence, Negates, Evaluates, Puts alternative view, Suggests a method, Restates in different terms, | Constructing the question, Raising new question, Setting up hypotheses, Using evidence, Expressing feelings and recreating experience | Closed tasks, Open tasks, Beyond the given, Explicit hypotheses, Anecdote, Hypothetical cases, Using everyday knowledge, Challenging generalities, Expressing ethical judgements, Shared recreation of literary experience |
| | <i>Reflexivity</i> | |
| | Monitoring own speech and thought, Interrelating alternative viewpoints Evaluating own and others' performance Awareness of strategies | Own contributions provisional, Validity of others, More than one possibility, Finding overarching principles, Audience for recording Summarizing Moving to new topic |

Appendix C

The following points will be noted in the coding procedure of classroom talk. These have been adapted from instructions stipulated by Bellack (1966) in his research study.

- 1 Coding will be from the viewpoint of the observer, with pedagogical meaning inferred from the speaker's verbal behaviour. Meaning will be inferred from the context and intent
- 2 All missed statements and un-codeable statements will be indicated. Partially missed statements will be coded only if there is enough information to code the pedagogical move and utterance.
- 3 A line of discourse will be 10cms. of transcript which is type written
- 4 All complete utterances of less than one line will be counted as one line
- 5 In longer utterances, the final line segment is counted as one line if it exceeds half the line. If it does not it is discounted
- 6 In utterances that contain more than one pedagogical move, each pedagogical move is counted as at least one line

Appendix D

Icons, symbols and abbreviations used in transcript

| | |
|----------------------------------|-------|
| ▪ Teacher | TT |
| ▪ Student | ST |
| ▪ Students | STs |
| ▪ Presenter | Pt |
| ▪ Latching and truncation | ... |
| ▪ Overlapping speech | [[]] |
| ▪ Unclear words | XX |
| ▪ Unnatural pauses | ^^ |
| ▪ Laughter @ | |
| ▪ Noise, collective murmur | ## |
| ▪ Discourse markers | dm |
| ▪ Pragmatic markers | pm |
| ▪ Metstatements | m |
| ▪ Thinking filters | tf |
| ▪ Prosodic markers for questions | / |

Appendix E

[Amidon and Hunter 1966 p. 216]

The Interaction matrix

| | | | | | | | | | | | | | | | | |
|---------------|---|---|--------------|---|----|---|--------|---|---|----|----|----|----|----|----|---------------|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Total 100% |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | Teacher | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | Student Talk | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | X | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | Others | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| Total 100% | | | | 8 | 14 | | | | | 5 | 10 | | | | | Total 100% |

An example of how these were entered is given below.

| | | | |
|----|--------------------------------------|----|----------------------|
| Tr | how is tin transported | T3 | 1 st |
| St | train | S1 | pair 2 nd |
| Tr | train railway lines only railways | T5 | 3 rd pair |
| St | roads | T3 | pair 4 th |
| | | S1 | pair |

Step one

Coded tallies were entered into the fifteen cell matrix, two at a time and the percentage of the recorded tallies in all the fifteen categories were calculated.

Step two

Based on matrix, patterns of interaction that demonstrated a breakaway from the IRE patterns as well as other unique patterns were identified. Examples are given below.

- Dual interaction patterns e.g. [4-5] teacher's open questions followed by teacher's own comment
- Triple interaction patterns [4-5-10] teacher's open question followed by teacher's own comment followed by student's comment directed at teacher
- Quadruple interaction patterns [4-5-10-11] teacher's open question followed by teacher's own comment followed by student's comment directed to teacher followed by student's comment to peer

Step three

The micromoves of these various types of interaction pattern were examined in order to understand and describe the thinking processes involved.

Appendix F

Matrix to show sequence and patterns of verbal behaviour
of teacher and students in the classroom

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----|------------|---|-----------|---|---|---|---|---|---|----|----|----|
| 1 | | | | | | | | | | | | |
| 2 | <i>III</i> | | <i>I</i> | | | | | | | | | |
| 3 | Area A | | | | | | | | | | | |
| 4 | | | <i>II</i> | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |

An example of the matrix as presented by Amidon and Hunter (1966) to show interaction patterns that can be interpreted by studying the matrix. Area A

Appendix G

Principal,

Singapore.

11th August 2000

Dear Sir,

Re: Permission for collection of data for research

I am a teacher who is at present on post degree leave, granted by the Ministry of Education. I am conducting research for a PhD in Education degree at the Edith Cowan University, Perth, Australia. My area of research is on "The Nature of Talk in the History Classroom". I am interested in studying how teachers and students interact and talk in the history classroom. I believe that my research will have pedagogical implications on the teaching and learning of history in Singapore Schools.

In order to conduct this research I seek permission to collect data on "classroom talk" from *one* Upper Secondary Gifted stream history class. I need to *audio and video tape two lessons*. Prior to this I will also have to make two familiarization visits in order to minimize observer effect. All in all, I will have to make *four visits only*.

I have specially chosen ——— for the following three reasons:

- i) It is a premier school in Singapore with Gifted stream classes.
- ii) The school has always been a vanguard of change and is thus supportive of research and scholarship.
- iii) It has a history department, which is very actively involved in the incorporation of IT and thinking skills in the history lessons.

I have been granted permission from the Ministry of Education to collect data from Schools.

Please note that prior permission and consent will be obtained from the HOD and teacher concerned, parents of the students and the students themselves.

I also wish to state that all audio and videotapes will be kept by the researcher and later by the Edith Cowan University *under lock and key* and finally destroyed after five years. The information gained will be confidential and name of school, teachers and students will be given code names when I write up my findings. If you have any concerns regarding this you can contact Dr Rhonda Oliver from Edith Cowan University.

Finally, please also note, that the School, the teacher and students have the right to withdraw from the research at any time without prejudice. I am submitting the following documents:

The letter of permission from the Ministry of Education

The letter seeking the teacher's permission;

The letter seeking consent from parents of students and a letter to the students explaining my research.

I have also made this request known to ——— and ———.

I seek the support of you and your School in this research endeavor.

Thanking you,

Yours Faithfully,

Appendix H

11th August 2000

To:

Thro'

The Principal,
No 1 Raffles Institution Lane,
Singapore. .

Dear Sir/ Madam,

Re: Collection of data for Research

I am a teacher who is at present on post degree leave, granted by the Ministry of Education. I am conducting research for a PhD in Education at the Edith Cowan University, Perth, Australia. My area of research is on "The Nature of Talk in the History Classroom". I am interested in studying how teachers and students interact and talk in the history classroom. I believe that my research will have pedagogical implications on the teaching and learning of history in Singapore Schools.

In order to conduct this research I seek permission to collect data on "classroom talk" from *one* Upper Secondary Gifted stream history class. I need to *audio and video tape two lessons*. Prior to this I will also have to make two familiarization visits in order to minimize observer effect. All in all, I will have to make *four visits only*.

I have specially selected you for the research because I have heard that you are excellent history teachers and the history department is innovative in the use of IT. If you agree to participate in the research, you will be required to teach the class using a strategy which you have used before and one which you are comfortable with.

I also wish to state that all audio and videotapes will be kept by the researcher and later by the Edith Cowan University under *lock and key* and finally destroyed after five years. The information gained will be confidential and names of school, teachers and students will be given code names when I write up my findings. If you have any concerns regarding this matter please contact my Supervisor, Dr Rhonda Oliver, Edith Cowan University.

Please note that you and your students have the right to withdraw from the research at any time without prejudice. I have written and obtained permission from the Ministry of Education and from your School Principal to collect data from your School. Permission will also be obtained from the parents and students.

I seek your support and help in this research endeavor.

Thanking You,

Yours Faithfully,

Appendix I

1st August 2000

To:
The Parent/Guardian,

Thro'
The Principal,
Singapore.

Dear Sir/Madam,

Re: Collection of data for Research

I am a Singapore teacher who is at present on post degree leave, granted by the Ministry of Education. I am conducting research for a PhD in Education at the Edith Cowan University, Perth, Australia. My area of research is on "The Nature of Talk in the History Classroom". I am interested in studying how teachers and students interact and talk in the history class. I believe my research will help in the teaching and learning of history in Singapore Schools.

I have been granted permission by the Ministry of Education, the School Principal and the History Teacher to *video and audio tape four lessons* from one class of students. Your son is from this class.

All video and audiotapes will be kept by me and later by the Edith Cowan University under *lock and key* and finally destroyed after five years.

The students are free to withdraw from the research at any time without prejudice.

The information gained will be confidential and teachers and students will be given code names when I write up my findings. If you need further information you can contact me at Tel. no 4685953 and should you have any concerns regarding this matter you can contact the form teacher or the Principal.

I seek your support in this endeavor. If you have no objections to my carrying out this research please complete the form below and return it to the teacher.

Thanking You,

Yours Faithfully,

Pamela Thuraisingam,
PhD Research Student,
Edith Cowan University,
Perth, Western Australia

Re: Collection of data by Researcher

Date _____

I _____ (Parent/guardian's full name) have been informed of the research to be conducted by Pamela Thuraisingam on the "The nature of talk in the History classroom" and give my permission for my son _____ (Student's name) to fully participate.

Parent's Signature

Appendix J

Dear Student,

I am a Singapore School Teacher, who is conducting a research on the way teachers and students interact and talk in the history classroom. I believe that this research which I am conducting will help in the teaching and learning of history in Singapore schools.

I have been granted permission by the Ministry of Education, your School Principal and your History teacher to conduct this research.

I now seek your permission to *video and audiotape four lessons* in your class. All video and audiotapes will be kept by me and later by my University (Edith Cowan University- Western Australia) under *lock and key* and finally destroyed after five years.

The students are free to withdraw from the research at any time without prejudice.

The information gained will be confidential and teachers and students will be given code names when I write up my findings. If you need further information you can contact me at Tel. no 4625953 and should you have any concerns regarding this matter you can contact the form teacher or the Principal.

I seek your support and help in carrying out this research. Please let us know through your parents if you have any objections.

Thanking you,

Yours faithfully,

Pamela Thuraisingam,
PhD Research student,
Edith Cowan University,
Western Australia

Appendix K

| Teacher | Stream | Lesson | Pedegogy |
|---------|---------|--------|---|
| One | Special | I | Computer based integrated lesson. Teacher input provided through power point and video pre entation. This provided stimulus/trigger for lesson. Divergent question was used to generate two conflicting views after which there was a ten minute of class discussion facilitated and led by teacher. Teacher used overhead projector. Students are seated in front of the computer but turn towards teacher when he speaks. [60mins] |
| One | Special | II | A tourist brochure was used as source material to trigger discussion. Students were given a challenging task where they had to refute and question statement in the brochure "Raffles acquired possession of the land in 1819" ...if all the credit should go to Raffles for the founding of Singapore and if he really possessed Singapore. These questions were given as open-ended questions to stimulate discussion in groups before a general discussion. Students were seated in groups. [60mins] |
| Two | Special | III | Divergent question presented for debate and discussion. A teacher led discussion. Students were seated in a circle and teacher perched himself on the table. Power relation appeared more equal here as teacher actively encouraged digression. [60mins] |
| Two | Special | IV | Student presentation of project work. Student presented with the aid of transparencies and an overhead projector. Teacher made comments and encouraged students to make comments as well as the student presented her project. Student stood in front of the class. [60mins] |
| Three | Express | V | Group task on a list of historical concepts which were provided by the teacher. Students were required to use the textbook as a guide. Teacher took turn to sit in with the groups to help them find the meanings to the concepts in the textbook. [60mins] |
| Three | Express | VI | Source based question. Two pictures of King Mongkut provided to each student for group discussion. Task was to write the answer as a group on the transparency to be displayed at the end of lesson to the class. Teacher provided the questions. [60mins] |
| Four | Express | VII | Video shown at intervals followed by a teacher led discussion. [60mins] |
| Four | Express | VIII | Computer assisted learning followed by class discussion. Each group was assigned a different aspect of the topic and they had to work on the |

| | | | |
|------|--------|-----|--|
| | | | questions as they watched a CD Rom on the computer. They had to skim and scan the material on the CD Rom for information. They worked in pairs two to a computer. The teacher went around interacting with the students. There was an open teacher led discussion at the end of the lesson. [60mins] |
| Five | Normal | IX | Students had been assigned a task for group discussion. They were required to present to the class while another group had to evaluate the answers of these students. The students were not allowed to refer to the textbooks. The students were seated in a group. [60mins] |
| Five | Normal | X | The lesson continued from where they had left off earlier. While one group presented the other group evaluated. Again the students were seated in a group. [60mins] |
| Six | Normal | XI | Teacher handed out worksheets. Students filled in the worksheets with facts with the help of the teacher. This was in preparation for the coming examinations. The lesson was dominated by the teacher. [60mins] |
| Six | Normal | XII | Teacher distributed to the students some notes in preparation for the coming examinations. There was drilling of facts with questions asked for recall of facts. Teacher dominated the lesson. [60mins] |