VARIABILITY IN INTERLANGUAGE PHONOLOGY OF MALAYSIAN LEARNERS OF ENGLISH

BY

ALIAS ABD GHANI

(B.ED, M.A)

Submitted in accordance with the requirements for the degree of

Doctor of Philosophy

The University of Leeds

Department of Linguistics and Phonetics

April 1995

The candidate confirms that the work submitted is his own and that appropriate credit has been given where reference has been made to work of others.

ABSTRACT

This study is a synchronic investigation of variability in interlanguage phonology of Malaysian learners of English. The study investigates patterns of style shifting in the speech performance of the Malaysian learners of English as they vary according to various stylistic environments i.e. verbal tasks viz. minimal pairs reading, word list reading, dialogue reading and free conversation representing different contexts of situation ranging from the most formal to the most casual form of speech styles.

The main objective of this thesis is to establish patterns of style stratification in the speech production of the subjects and to trace whether there exists any systematic patterning in the subjects' pronunciation of the target English sounds of both the individual subjects and across the group of subjects who come from different ethnolinguistic backgrounds. This study is also undertaken in order to determine the extent to which Labovian 'attention to speech' may be used as a causal explanation for variability in the speech production of the subjects.

This study is adapted from the variability model developed by William Labov (1970) and extended by Lorna Dickerson (1974) in her interlanguage investigation of Japanese learners of English for showing stylistic variation of speakers at a given point in time (synchronic variation) with the use of a single linear scale as a method of data analysis.

An experimental investigation involving an interview method with the individual subjects, using four-part, Labov-style, self-administered tests were carried out at the University of Science, Malaysia. The results of this study show

that there is phonological variation in the subjects' performance of all the phonemes under investigation and this variation seems to be systematic in nature. The speech performance of the Malaysian subjects in this study is responsive to the nature of the verbal tasks they are engaged in and in their production of most of the target English phonemes they produced the predicted ranking of style shifting according to the Labovian 'attention to speech' hypothesis. According to the hypothesis the subjects' speech performance should record the highest index score in the task which requires the greatest attention to be paid to the speech (minimal pairs reading) with the lowest index score in the tasks which has the least attention (free conversation). As the results reveal, in most cases the subjects record the highest index scores in the reading of minimal pairs. This is followed by word list reading, then dialogue reading and finally free conversation which records the lowest index scores of all. However, the only exception to this regular patterning is in the subjects' performance of phonemes /v/ and /r/ where it may be due to factors such as phonological transfer from *Bahasa Malaysia* (for phoneme /r/) or inadequate data for comparison (for phoneme /v/ as well as phonemes /p/, /b/ and /g/ in free conversation) . The results of statistical analysis using a Repeated Measurement of Analysis of Variance (ANOVA) indicate that there is significant difference in the performance of the subjects across the four verbal tasks with the reading of minimal pairs the highest in the rank, followed by word list reading then dialogue reading and finally free conversation, the lowest in the rank. The results of this study suggest that 'attention to speech' could be used to account for variability in the subjects' speech performance of most of the TL phonemes under investigation across the four different verbal tasks. However, it cannot adequately explain variability in the subjects' performance of the TL phoneme /r/.

The results also suggest that though the subjects' speech performance is also sensitive to the position of phonemes in the words (i.e. word initial, medial or

final), their production of those phonemes seems to be governed by the nature of the verbal tasks they are engaged in.

As regards the group performance according to subjects' ethnolinguistic backgrounds, the results reveal that in most cases there is no significant difference in the performance of the subjects who come from different ethnolinguistic groups viz. Malay, Chinese and Indian. This is supported by statistical results which indicate no significant difference in the performance of the subjects according to groups with the exception of subjects performance of /θ/ and /g/ where in their production of the target phoneme /θ/, subjects who come from a Malay background records the highest mean scores followed by subjects who come from a Chinese background and finally those who come from an Indian background. As regards, phoneme /g/, the results suggest that subjects from a Chinese background record the lowest mean scores of all.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisor, Miss M A Shirt for her invaluable advice, encouragements and constant support in my work. Her understanding, patience and readiness to help throughout the research and during the preparation of this thesis are highly appreciated.

Thanks are due to the students of English at the University of Science, Malaysia for their participation in this research. Without their support this research could not have been carried out. Their help is highly appreciated.

Thanks are also extended to Professor Mashudi Abdul Kader, the Director of the Centre for Languages and Translation of the University of Science, Malaysia for his kind permission to use the language studio and the facilities of the centre during the period of my research.

I also wish to extend my sincere thanks and appreciation to the technicians of the Centre for Languages and Translation of the University of Science, Malaysia for their friendly assistance during the period of the research.

I am also indebted to my sponsors, the University of Science, Malaysia and the Public Services Department of Malaysia for granting me the fellowship to undertake the research programme.

Acknowledgement is due to my friends, Bahari Belaton and Zulkifli Mohamed for their patience and readiness to help particularly with my problems related to computers; Sandra Daniels of the Research Support Office of the School of Education, University of Leeds, for her help with statistics.

Thanks are also due to all members of the staff of the Department of Linguistics and Phonetics, University of Leeds for their hospitality and support during my stay there, particularly, Joan Colman, for her friendship and for making my stay in Leeds a memorable one.

Last but not least, no words are adequate enough to express my deepest gratitude to my family, particularly to my father, Abd Ghani Mohamed, for their undying love and constant support throughout my life.

DEDICATED TO

The memory of my late mother

MAIMUN

whose love has always been a source of hope and guidance in my life

MAY PEACE BE UPON HER SOUL

CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 2

CHAPTER 4

CHAPTER 5

CHAPTER 6

Chapter 1

Introduction

1.1 Background of the study

This study is an investigation of the speech patterns of Malaysian learners of English. It is undertaken in order to establish the patterns of variability in the interlanguage (IL) phonology of Malaysian learners of English and to throw light on the process used by the learners as they shift their styles according to various stylistic contexts.

There is no doubt that there has been a number of studies conducted on the area of IL phonology (Dickerson (1974), Schmidt (1977), Beebe (1980), Tarone (1985), Sato (1985) and Weinberger (1987)). However, to date, there has been no attempt made to investigate the nature of variability in the IL phonology of Malaysian learners of English either in the context of a group of speakers or in the context of multilingualism and multiculturalism. Although a good deal of research has been carried out on Malaysian English (Tongue (1974), Wong (1981), Augustine (1982), Wang (1987)), most of the attention has been on broad linguistic areas (e.g error analysis) or other areas pertaining to pedagogical issues. Another attempt was also made by Platt and Weber (1980) to study Malaysian English but again that was restricted to establishing general linguistic features of Malaysian and Singaporean

English. This paucity of data on Malaysian subjects provides a strong motivation for the researcher to carry out a study of this nature.

This variability study is essential so as to provide empirical data on patterns of variability of IL phonology of Malaysian learners of English and to make the teachers of English in the Malaysian educational setting aware of the nature of variability in their learners' speech production so that necessary pedagogical steps could be taken in order to facilitate the learners acquisition of the second language (L2).

Teachers of English to Malaysian learners are well aware of the fact that the majority of their learners will have difficulty in producing some target language (TL) sounds, for example, the final stop consonants. Very often, they come across learners who come from some ethnolinguistic backgrounds having problems distinguishing certain sounds such as /r/ and /l/ and /v/ and /w/, though this might not be true in all cases. The learners will frequently substitute the sounds with other sounds perhaps more familiar to them. What makes teachers of English more frustrated is the fact that there are irregularities in their learners' production of the TL sounds. In other words, their learners' pronunciation is so variable. On one occasion, the learners might produce a TL sound correctly, while on a different occasion, they do not. The learners' difficulty in producing the TL sound is often viewed by the teachers as a pronunciation error which arises due to phonological transfer from the native language (L1). A common practice to overcome this problem is to adhere to the approach developed by Contrastive Analysis of predicting the learners' errors and then teaching the TL sounds by means of repetitive drills. In contrast, previous research on the subject carried out by Dickerson (1974), Schmidt (1977), Beebe (1980) and Tarone (1985) concludes that learners' realisations of the TL sounds are rather systematic and variable. Learners'

speech production is not seen as erratic and unsystematic but rather as having several styles as they shift their speech to suit the different contexts of situation.

It is the researcher's opinion that experimental investigation based on these findings is essential in a Malaysian setting with a view of presenting empirical data to support the idea that variability and style shifting exist in the speech patterns of Malaysian learners of English.

This study also seeks to investigate the extent to which 'attention to speech' affects the variability patterning of the IL phonology of the Malaysian learners of English. It should be noted here that 'attention to speech' as a causal explanation for IL variation is not without its critics (see Wolfson (1976, 1979), Beebe (1982), Preston (1989)). However, it will be interesting to observe to what extent it does affect the patterns of style shifting in the speech of the Malaysian subjects. It is hoped that the findings of this study will offer insight into what causes variation in the IL speech styles and determine whether 'attention to speech' could account for variation in the speech styles or are there any other processes that operate within the variability in the IL phonology of the subjects.

It is important to note here that this investigation is not concerned with socially marked variants (stigmatised variants) as carried out by Labov in his studies in the Lower East side of New York City. Rather, this investigation focuses its attention on the production of variables (phonemes) based on the TL norms with the intention of establishing patterns of style shifting in the speech performance of the Malaysian learners of English across the different verbal tasks and to produce phonological features confined to each different style.

1.2 Objectives of the Study

This study is an investigation of variability in the pronunciation patterns of Malaysian learners of English. The linguistic variables investigated in this study are the voiced and voiceless dental fricatives /θ/ and /ð/, the labio-dental fricative /v/, the approximant /r/ and the stop consonants which occur in the final position of English words /p, b, t, d, k, g/, while the independent variables are the four verbal tasks, namely; a) word list reading, b) minimal pair reading, c) dialogue reading and d) free conversation.

The investigation is the means by which the researcher seeks to achieve the following:

(i) to provide additional information to the existing knowledge concerning variability in the IL phonology of L2 learners and to provide specific information concerning the IL phonology of Malaysian learners of English given the paucity of data in the area.

(ii) to establish features of phonological patterning of style stratification of Malaysian learners of English across the four different verbal tasks measured by the amount of 'attention to speech'.

(iii) to establish how far the observed phonological variation in the speech of the Malaysian learners is systematic.

(iv) to investigate the extent to which 'attention to speech' operates within the phonological variability in the subjects speech performance to determine its relative causal contribution to the IL variation.

(v) to establish whether language learners from different ethnolinguistic backgrounds exhibit patterns in their production of English sounds and to establish whether there is any significant difference in the performance of these learners.

1.3 Scope of the Study

This study is a synchronic investigation of a group of learners' speech production at a given point in time. The researcher is aware of the fact that an ideal study would also include the study of sound change of the learners' pronunciation over time (diachronic sound change) and to determine whether the change occurs in any patterned way. However, due to some limitations, the researcher has to avoid any study of that nature.

The main focus of this study is on phonological patterning according to stylistic differences with the aim of establishing patterns of style shifting in the subjects' speech performance across the four different styles and to establish features confined to each style.

This study measures the subjects' production of variables (phonemes) under investigation based on the TL and to present the extent to which the subjects' speech production is similar to or differs from the TL norms .

It should be pointed out that this investigation is not concerned with the social stratification of language use according to the social class in the native speakers' environment as carried out by Labov, Trudgill and Milroy. In fact, this study is an extension of some aspects of Dickerson's work (1974) with her Japanese subjects

using the method based on the proportion of target-like variants displayed on a style stratification diagram to describe and measure variation. Since this study seeks to present the patterns of style shifting in the subjects' speech performance, including the direction in which the subjects shift their styles across the different stylistic situations, the researcher feels that a simple linear analysis of styles as employed by Dickerson is quite appropriate.

The researcher is also aware of the fact that there are other types of variability in language use. Preston (1989) provides detailed accounts of variability which are attributed to individual characteristics such as sex, age, ethnicity, region, role and status; and variability which is the result of interactional factors such as setting, content, functions, topic, tenor and participants. Ellis (1994, p 150) describes variability which can be explained in terms of psycholinguistic factors such as pressure, focus of attention, planning time, planned vs unplanned discourse but they are beyond the scope of this study.

1.4 Language Situation in Malaysia

This section provides a general sociolinguistic profile of the language situation in Malaysia and in particular it briefly outlines the roles and status of English within the context of the Malaysian educational setting.

1.4.1 Background of Languages in Malaysia

Malaysia is characterised by a multilingual society where its population is made up of people who come from various ethnic and linguistic backgrounds. Broadly speaking, there are four major languages in Malaysia. They are Malay, commonly known as *Bahasa Malaysia,* Chinese (including its various dialects such as Mandarin, Cantonese and Hokkien), Indian (predominantly Tamil dialect) and English. Malay or *Bahasa Malaysia* is the national and official language of the country and it is the lingua franca among all the races. Mandarin, Cantonese and Hokkien are dialects which are widely used by the Chinese community while Tamil is confined to the Indians in the country. English, on the other hand, has the status of a second language and it is still widely used in inter-ethnic communication particularly in the urban areas throughout the nation.

Besides, there are also other languages used by different ethnic minorities. These include all the native and the aboriginal languages of Malaysia such as Iban, Bidayuh, Kadazan etc., other Chinese dialects such as Hakka and Teowchow, the languages of the Indian sub-continent and Sri Lanka including Hindi, Punjabi, Malayalam, Urdu and Singhalase. In addition to that, there is also the Thai language which is confined to the border towns of Malaysia and Thailand. There are also other foreign languages which are also used by a restricted number of Malaysians. They include Japanese, French, German and Russian. According to Asmah (1992),

the acquisition of these languages are usually motivated by specific factors (e.g for diplomatic purposes). Another language which is of foreign origin but plays a considerable role in Malaysia is Arabic. It serves as a special function and it is closely linked with the Islamic religion which is the official religion of the country. It is also taught as a subject particularly in religious schools. However, Arabic is not widely used for communicative purposes and its use is generally restricted to the domain of religion.

Besides these languages, there are also creolised and pidginised languages. A good example of a creolised language in Malaysia is Portuguese creole which is spoken by a small community of Portuguese who are the result of cross-marriage with the local people. The pidgin language, on the other hand, is what is commonly referred to as Bazaar Malay. This variety is the result of the mixture of Malay and other ethnic languages in Malaysia. This pidgin also serves as another means of inter-ethnic communication.

1.4.2 The Roles and Relative Status of the Languages in Malaysia

As mentioned in the previous section, there are many languages in Malaysia. Some of them are restricted to the respective communities while the others serve as a language in inter-ethnic communication. In Malaysia, the languages which fit this purpose are Malay and English. Malay has been the national language of the nation since Malaysia achieved independence in 1957. Though Malay is the national language of Malaysia, the use of English and other languages is not prohibited. In fact, the Malaysian education system still promotes the use of Mandarin and Tamil in vernacular schools throughout the country though these types of schools are mainly confined to primary education. However, upon completion of their primary

education in those schools, the learners would then attend the national secondary schools which promote the use of Malay as a medium of instruction.

English, on the other hand, continues to be used in the domains of international affairs and other professional areas such as medicine, technology and commerce. It is also used in the legal profession especially among the members who are not proficient in Malay, though its use will slowly be phased out in the future. This is the result of The National Language (Amendment) Act which was passed in 1989 which puts *Bahasa Malaysia* first in court proceedings though permission to use English may be granted by the court according to the needs of the situation. English is also predominantly used in private firms, hotels and financial institutions. However, as far as the general community is concerned, English is still widely spoken particularly by the Malaysians who live in urban areas. It is also widely spoken in shopping centres throughout the country though the variety is confined to the local colloquial variety. Interaction among educated Malaysians to a certain extent, may still be in English irrespective of race, though it may be characterised by some kind of code mixing involving English and some other local languages.

In terms of general exposure to English, the media seems to play a vital role in providing a constant input of language exposure particularly radio and television services. The television and radio services in Malaysia broadcast programmes in English as well as in Malay and other languages. Most of the English programmes broadcast by the Malaysian television services (TV1, TV2 and TV3) fall under the areas of entertainment and documentaries. The radio service provided by the RTM (Radio and Television Malaysia) also has an English network known as Radio 4. As Asmah Hj Omar (1992, p 77) states:

> 'Malaysians, inclusive of those in the rural areas, spend a great deal of their time watching television programmes in English. In totality, taking into consideration the programmes provided by the three services mentioned above, there are more programmes in English than there are in Malay'.

1.4.2.1 The Teaching of English in Malaysia

English is regarded as the most important second language in Malaysia. According to Asmah Hj Omar (1983, p230), English is defined as the second most important language in the Malaysian context due to its relative importance in the education system and international relations. It is second only to Malay which is the first and the official language of the nation. Since English has a relative importance in the Malaysian education system, it is a compulsory subject in schools both in the urbans and the rural areas. It is taught as soon as Malaysian children enter their elementary education. Compulsory English is further extended in secondary (High) education which takes a period of five years. At the end of the first three years (forms one, two and three), the Malaysian learners sit for a public examination called Lower Secondary Assessment Tests. Then, they proceed to upper secondary level (forms four and five) which takes another period of two years where at the end of the period of instruction, they sit for another public examination called the Malaysian Certificate of Education Examination (MCE) which is equivalent to the British GCE O-level. Compulsory English education, however, stops at the pre-university level until the students continue their tertiary education at the university and other institutions of higher learning such as MARA Institute of Technology where English becomes a compulsory subject again. This is particularly because most reference materials are still in English especially those in the areas of business, science and technology, though of late various efforts have been made to encourage more local publications in Malay. Besides, it is also a deliberate policy on the part of the Ministry of Education to promote the learning of English due to its importance in the international world. In some universities such as the University of Science Malaysia, English has been given academic status whereby it becomes part of the total requirement for the award of a degree. Though English is a compulsory

subject in Malaysian universities, it is not a prerequisite for admission to the university nor it is a medium of instruction.

As far as the teaching of English is concerned, it should be noted here that before the period of 1977, two types of secondary schools existed in Malaysia; firstly, the national schools whose medium of instruction was Malay and secondly, the national type schools whose medium of instruction was English. Learners who attended the two different types of schools went through a different English syllabus and sat for different English language papers in the public examinations. However, with the change of the medium of instruction to Malay, a common English syllabus is necessary. This new syllabus, the so called Communicational syllabus takes a new view of the role of English in Malaysia where its function is perceived as having communicational purposes. Following that, Malaysian learners for the first time (1977) in the history of English language teaching in Malaysia sat for a common English paper in their public examinations and since then undergo a common English syllabus.

As far as the target dialect of English is concerned, The Teachers' handbook for the Post-1970 Primary School Syllabus issued by the Malaysian Ministry of Education in 1973, p. 3 clearly indicated that the aim of the programme was

> 'to teach children to speak in such a way that they will be understood not only by fellow Malaysians, but by speakers of English from other parts of the world'.

The handbook on the same page also specifies that the type of pronunciation should be 'Received Pronunciation' or RP:

> 'In the past, the type of English pronunciation used as a model in Malaysia has been RP('Received Pronunciation'), on which many of the text books, dictionaries and tapes are based. It seems logical to continue to use RP as a basis.....'

Besides, learners are also expected to be able to 'speak with acceptable rhythm and stress, and to produce the sounds of English sufficiently well for a listener to distinguish between similar words' (1973, p3). As far as the subjects in this study are concerned, the model of pronunciation used in the pronunciation course undertaken by them at the University of Science Malaysia, is also based on RP. This provides a strong rationale for the researcher to use a simple linear scale of data analysis based on RP as the target language sound.

1.4.2.2 Linguistic Features of Malaysian English

Broadly speaking, there are two main varieties of Malaysian English (ME) in Malaysia. It should be pointed out here that though some writers would use MSE (Malaysian Singaporean English) to refer to the existence of a single dialect of English in the two countries, the writer feels that it is better to use ME throughout the discussion in this thesis to avoid confusion. There has already been some divergence of Malaysian English from that of Singapore due to the differences in language and educational policies between the two countries. The Malaysian variety of English is being restricted to a medium of wider communication within the country. Tongue (1974, p. 19-20) classifies ME according to stylistic range; (i) Standard and (ii) Sub-standard, with the formal style, which may be close to British Standard English representing 'Standard' ME while the informal style which is a more simplified version and contains more sub-standard forms, represents 'possibly (probably) sub-standard' ME. Though Tongue admits to difficulties in drawing the distinction between standard and sub-standard, he states that the differences between the two varieties are so obvious that:

> 'In fact, formal and informal speech in Singapore and Malaysia are so different as almost to warrant being treated as two dialects.'
>
> (source: Tongue, 1974 p. 20)

Platt and Weber (1980) also distinguish two varieties of ME which are (i) ME I and (ii) ME II. Unlike Tongue, they categorise these varieties according to the schools the speakers attended. ME I is characterised by the variety which is spoken by the English medium educated speakers where the status of English is still a true second language and is used in everyday conversation. ME II on the other hand, refers to the variety of English which is spoken by speakers who attended the Malay medium schools as well as Chinese medium schools (Wang, 1987). In these types of schools, English appears to be a foreign language and its use in everyday communication is very limited. However, classification of ME based on this nature (i.e according to the schools the speakers attended) is not applicable anymore within the current educational context in Malaysia due to the use of Malay as the medium of instruction in all schools in Malaysia. Platt and Weber (1980) also suggest that educated Malaysian speakers of English would vary in their speech performance according to three 'sociolects' (social dialectal styles) known as 'an acrolect', 'a mesolect' and 'a basilect'. According to them these speakers use those styles i.e acrolect, masolect and basilect' in formal, semiformal and casual situations respectively.

Wong (1981) on the other hand, classifies ME according to its hierarchical ranking. At the top of the scale, there are speakers who use English as a primary language and have near-native proficiency, while down the scale, there are those who are not proficient in English and their use of the language is restricted to basic communicative purposes. She uses Quirk's term 'wider speech form' to refer to the

former variety and 'local dialect' to describe the latter. According to her, the 'wider speech' form is used on all occasions, in formal speech as well as in informal situations. This variety normally has a more formal form both in speech and in writing and it is usually learnt through formal language instruction in schools or institutions of higher learning. The 'local dialect' on the other hand, is limited to speech use among local friends who share the same dialect and it functions as an 'intimacy signal' among the speakers (Tongue, 1974). This variety is marked by sub-standard forms at all levels of language use including grammar, vocabulary, voice quality, pace of utterance and even gestures. Unlike the 'wider speech form', this variety is usually acquired informally through friends and peer-groups. Since the 'wider speech form' has extended functions, it has a much wider sphere of use than that of the 'local dilaect'. With regard to English, in general, both Wang and Tongue claim that most English speaking Malaysians have both the varieties of Malaysian English at their disposal.

Although it is difficult to make a clear distinction between the two varieties mentioned above, Wang (1987) identifies some linguistic features of ME which characterise them. This is made possible form the previous studies on Malaysian English carried out by Platt and Weber (1980) and Wong (1981). She provides detailed accounts of linguistic features of the two varieties of Malaysian English. They are presented as follows:

(i) Linguistic Features of 'Standard ME'/ 'The Wider Speech Form'/ 'ME I'

According to Wang, the variety of ME which falls under these categories refers to the variety of English spoken by average educated Malaysians It consists of standard English which is spoken with a recognisable local accent and may contain some mixture of local terms and expressions and it demonstrates only minor differences in syntax and lexis compared with standard British English.

At the syntactic level, in fact, there is no significant difference between the grammatical features of this variety and those of Standard British English.. The following are examples of some of the common features which may be found in some speakers who speak this variety.

(i) Choosing the correct tense in different situations and contexts exemplified in the following sentence;

I'm running a business in Kuala Lumpur instead of *I run a business in Kuala Lumpur.*

(ii) The use of auxiliary verbs, 'do', 'does' and 'did';

Why he wants to leave the place? instead of *Why does he want to leave the place?*

(iii) Prepositions;

e.g discuss about. etc

(iv) Over generalisation of nouns irrespective of whether they are countable nouns or uncountable;

e.g information becomes *informations*

equipment becomes *equipments*

luggage becomes *luggages.*

As far as pronunciation is concerned, there are some features which are deviations from Standard British English (RP). The following are some of the prominent phonological features of this variety which are outlined by Wang (1987):

(i) The tendency to shorten long vowels especially in closed syllables and to monophthongise diphthongs. For example, 'caught' and 'feet' are pronounced as [kɒt]and [fit]respectively and there is no contrast in the pronunciation of 'caught' and 'cot' and 'feet' and 'fit'. As for the words 'day' and 'road', they are pronounced as [de] and [rod] respectively.

(ii) The stops /p, b, t, d, k, g/ which occur in final position of English words are often not released at all in ME. For example the words, 'cap', 'cab', 'feet', 'feed', 'dock' and 'dog' are pronounced as [kæp˺], [kæb˺], [fiːt˺], [fiːd˺], [dɒk˺] and [dɒg˺] respectively.

(iii) ME speakers also have a tendency to replace voiced stops, affricates and fricatives which occur in final position in English words with their voiceless counterparts. For example the words 'bag', 'leave', 'manage', 'ones' are pronounced as [bæk˺], [lif], [mɛnetʃ] and [wʌns] respectively. Conversely, words like 'December' and 'decision' are pronounced as [dizɛmbə] and [diziʃən] respectively.

At the stress level, there are obvious features of ME which deviate from British Standard English.

(i) ME speakers have a tendency to stress the penultimate or last syllable irrespective of whether it is a verb or a noun. For example, co'lleague, deve'lopment, com'petent etc. In RP, the placement of the primary stress depends on the nature of the word itself as in the following example, 'photograph, pho'tographer, photo'graphic, photo'graphically. ME speakers, on the other hand, do not differentiate the stress pattern instead they pronounce all the words above with primary stress on the same syllable i.e. photo'graph, photo'grapher, photo'graphic and photo'graphically.

(ii) In RP when the stress is on the second syllable as in the words 'banana', 'consider', 'attack', the vowel in the first syllable is usually reduced to a schwa. However, in ME , the vowels in such syllables have full vowel quality.

At the lexical level, there exist some words which are a reflection of the multilingual setting of the country. Some local words which are widely used in ME include 'towkay' (proprietor) which is a loan word from Chinese, and 'jaga' (guard) derived from Bahasa Malaysia (BM). Some BM words like 'dadah' (drugs), 'orang asli' (aborigines) and 'ringgit' (Malaysian currency) have been officially adapted into ME. Some words which originate from the colonial background, such as the word 'shillings' have been localised to refer to coins. The terms 'auntie' and 'uncle' extend their meaning from family relationships to a way of addressing older people as a mark of respect.

(ii) Linguistic Features of 'Sub-Standard ME' / 'The Local Dialect'/ 'MEII'

This variety is a more simplified version of the first variety. Basically it has most of the features of the first variety. However, due to the limited number of words acquired by the speakers of ME II, their use is usually extended to cover a variety of functions and meanings which are not normally regarded as Standard British English. For example the words, 'open' and 'close' are also used by the speakers of this variety to 'open and close taps, lights and even shirts' meaning 'to turn on/off taps' 'to turn on/off lights' and 'to unbutton shirts ' respectively. The word 'cut' can also mean 'to overtake' 'to beat' and 'to deduct'. For example; 'to cut (overtake) the car', 'to cut (beat) by five marks', 'to cut (reduce) one Ringgit (Malaysian unit of currency)'.

At the syntactic level, ME II is also a more simplified version of ME I. The following are some of the examples of features of ME.

(i) Omission of 'verb to be' e.g *'My sister (is) going to England'.*

(ii) Omission of subject 'it' e.g *look! (it's) raining.*

(iii) Wrong subject-verb agreement. e.g *'He don't (doesn't) like it'.*

(iv) Wrong inflection of the various parts of speech. e.g *'I haven't think (thought) of it'.*

(v) Problems with complex tense system. e.g. *'I go (went) to town this morning', 'She already gone (has gone) to school'.*

(vi) Omission of plural marking and over-generalisation of nouns. e.g *'He has two car (cars)'.*

(vii) Wrong use of tag question. Usually speakers of ME II use the tag question 'isn't it' or 'is it' irrespective of the subject and verb found in the main sentence.

e.g. *'She is coming, isn't it (isn't she?)', 'You like listening to music, isn't it (don't you?)', 'He has left, is it (has he?)'.*

(viii) The use of 'or not' in yes-no question. e.g. *'lend me your book, can or not?' (Can you lend me your book?), 'Going or not?' (Are you going?).*

(ix) Wrong word order in indirect questions. e.g *'Can you tell me where is the library?' (where the library is)*

(x) omission of articles. e.g *'I went to (the) library in town'.*

(xi) The use of the word 'got' to mean 'has/have' or 'there are'. e.g *'She got (has) two brothers', 'Got (there are) many books there'*

(xii) The use of fillers 'la or lah', 'ah', 'ha', 'what','one'.

'don't know la'

'come in lah'

'where to go ah'

'it's cheap what'

'you don't want ah?'

'she'll be here. Sure one'

As far as phonology is concerned, some of the obvious features of ME II include:

(i) Voiceless stops /p, t, k/ are usually unaspirated regardless of their relative positions in the words.

(ii) Consonant clusters may be simplified to a single consonant in final position. e.g The words 'ask', 'rest' and 'child' are pronounced [as], [ɹɛs], [tʃail] respectively. This also happens with medial consonant clusters. e.g 'also' is pronounced as [ɒso]. Alternatively, vowels may be inserted into the consonant clusters. e.g the word 'film' is pronounced as [filəm].

(iii) /θ/ and /ð/ are often substituted with /t/ and /d/ respectively. Thus the words 'three' and 'brother' becomes [tɹi] and [bɹadə].

(iv) /v/ is often replaced with /w/ resulting in the word 'van' pronounced as [wɛn]

It seems to the writer that the above classification of Malaysian English is based on the stylistic dimension i.e language use according to contexts of situation viz. formal vs informal forms. Baskaran (1994) places ME along this stylistic continuum i.e from the most formal to the most casual form of speech styles. Though she uses terms employed by Platt and Weber (1980) such as 'the high social dialect' (acrolect), 'the middle social dialect' (masolect) and 'the low social dialect' (basilect), she describes those social dialectal varieties in terms of formal and informal use of Malaysian English. It is clear here that regardless of the use of different dichotomy in classifying the varieties of Malaysian English ('standard' vs 'sub-standard' (Tongue (1974), 'ME I' vs 'ME II' (Platt and Weber (1980), 'wider

speech form' vs 'local dialect' (Wong (1981), 'acrolect' vs 'masolect' vs 'basilect' (Baskaran (1994)), the important contribution made by these researchers is to establish the fact that variability exists in Malaysian English and that this variability can best be explained in terms of formal and casual speech styles. It would be interesting to see whether variability in the subjects' speech performance in this study could also be explained according to the terms mentioned above i.e formal vs casual.

Chapter 2

Review of Related Literature

2.1 The Concept of Interlanguage

The notion of interlanguage in the context of this research refers to the broad sense of language learners' language (second language). This notion is borrowed from Selinker's notion of 'interlanguage' which came into existence in 1969.

The term 'interlanguage' was first coined by Selinker in 1969 and then elaborated in Selinker (1972) and reframed in Selinker (1992) to account for the uniqueness of utterances of second language learners. It refers to the internal linguistic system ('interim grammar') constructed by second language learners in their attempt to produce the target language (TL) norms. Various alternative terms have also been used by other researchers to refer to the same idea (i.e some sort of 'in-between' language or grammar) such as 'transitional competence' (Corder, 1971) and 'approximative system' (Nemser, 1971). According to Ellis (1985 b) regardless of terminology, they refer to the same phenomenon though Selinker (1992) argues that they have different theoretical approaches to the nature of SLA and make different claims and predictions about IL. As Selinker argues learner languages are not always transitional in nature and there is a possibility of stabilisation and fossilisation and that language learners do not always 'approximate' the TL until

they become indistinguishable from the native speakers of the TL. As Selinker (1992, p 225) states:

> 'In fact, it seems to me that all evidence is to the contrary: Fossilisation names the real phenomenon of the permanent non-learning of the TL structures, of the cessation of IL learning (in most cases) far from the expected TL norms.....What seems to confuse the issue is that some learners who appear very TL- like in some sub-systems of IL in some IL genres and discourse domains. It is my experience that such learners can fake it quite well by conversationally controlling the domain of talk and by avoiding certain inherently difficult areas of TL grammar, such as phrasal verbs and modals in English.'

However, what is of central importance here is the fact that the contribution of these researchers has been to establish the notion of a separate linguistic system developed by the L2 (second language) learners in their attempt to produce the TL norms.

One of the main facets of IL is that learners operate in accordance with the system of rules they have constructed up to a single point. However, their speech performance is so variable that on one occasion they use one rule, while on another they use a different set of rules. Despite this variability, the learners use their IL rules in predictable ways . In other words, they are systematic in nature.

The interlanguage is thought to be distinct from both the learners first language (L1) and from the target language. Learners interlanguage systems are said to evolve over time as L2 learners internalise the TL system and employ various internal strategies to make sense of the TL input and to control their own linguistic output. L2 learners constantly change the internal system to accommodate new hypotheses of the TL. As the new rules are formulated, they would first apply them in one linguistic context and then gradually extend their linguistic repertoire over a range of linguistic contexts. This conceptualisation is of central importance to Selinker's thinking about IL.

Selinker postulates the existence of a separate linguistic system which according to him was made up of rules which have been developed through various cognitive processes which are central to the L2 learning.. They are outlined as follows:

(i) Some elements of the IL may result from transfer of language i.e language interference from L1 to L2.

(ii) Some elements of the IL may result from transfer of training i.e specific features of the training process used in the teaching of the TL.

(iii) Some elements of the IL may result from a specific strategy employed by the L2 learners during the learning process.

(iv) Some elements of the IL may result from specific ways L2 learners learn to communicate with speakers of TL.

(v) Some elements of the IL may be the product of over generalisation of features of TL norms.

Selinker also suggests the likelihood of the state known as 'fossilisation'. It is a state where learners stop elaborating their IL in some respect irrespective of the amount of explanation and instruction the learners have to the new linguistic input or new language instruction. Fossilisation may also be the result of language transfer and further instruction will be of little help to the learners. To illustrate his idea of fossilisation, Selinker gives examples of French learners of English who retain the uvular /R/ in their IL and American English /ɻ / in their French IL. This process of fossilisation is not only confined to the phonetic level but also to other levels of language such as German time-place order after the verb in the English IL of German speakers. Fossilisation may also be the result of strategies of communication where individual learners cease to learn the TL once they feel they

have learned enough to communicate. Selinker (1992) further maintains the existence and importance of fossilisation process in IL. In re-framing interlanguage, Selinker (1992) suggests the need to include a richer language transfer perspective into current IL framework which also includes translation phenomena. According to Selinker, since translation is an important strategy for language learners as they look across language systems, this phenomenon should be included in the agenda of current IL research.

As a result of IL theory, learners errors are given a new recognition. They are no longer seen as 'unwanted forms' but as evidence of their active contribution to L2 acquisition. Language learners' errors provide rich information about IL. They give some kind of clue about the strategies employed by the learners as they approach the task of learning a second language.

The term interlanguage has been so widely used in the area of L2 research to the extent that it is now generally synonymous with L2 learners' language. In fact many researchers use the terms interchangeably to refer to the same thing.

2.2 Variation in Interlanguage

The second language learner's IL, like the first language is variable in nature, that is language learners vary in the production of their linguistic knowledge. Ellis (1985) proposes different types of variation in interlanguage.

According to Ellis, there are two basic types of variability, viz. systematic and non-systematic variability. Systematic variability is that which can be explained and predicted. There are two types of systematic variability. The first type is contextual variability. Some contextual variability is determined by situational context. This is

stylistic variability - the kind that Labov has observed with native speakers and which can be attributed to the nature of the task learners are asked to perform, the topic, the interlocutor, and the setting for the discourse. The other type of contextual variability is determined by linguistic contexts, that is some variants occur with greater accuracy in a specific linguistic context than in others. For instance, Dickerson (1975) showed that the phonetic quality of Japanese learners' production of English /z/ depended upon the consonants and the vowels which were adjacent to /z/.

There is another type of systematic variability - individual variability which is a product of individual learner factors such as age, sex, attitude and motivation. Different individual learners perform differently from one another in their production of IL, both at a single point in time and over time.

Non-systematic variability, on the other hand, is rather random and unpredictable. It is usually characterised by no apparent pattern in the use of variants. The language learner may use two or more variants of the TL to express the same thing. The different types of variability are summarised as follows:

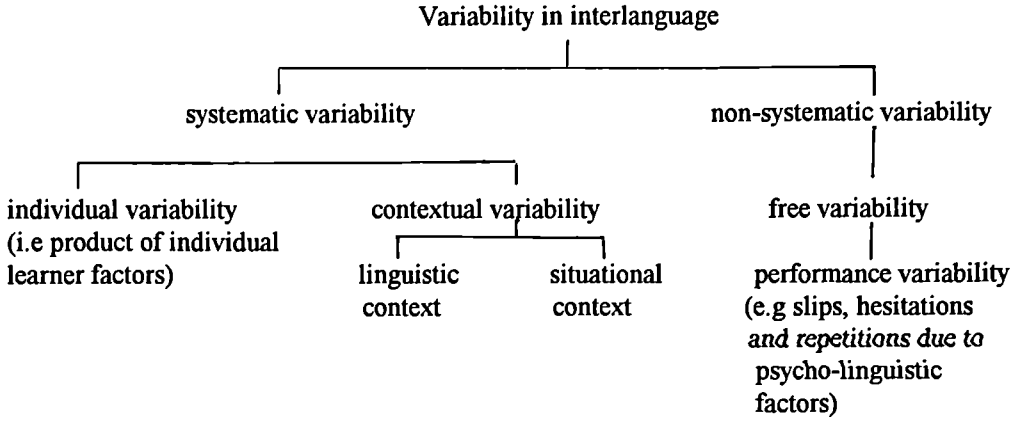


Fig. 2.1 Types of variability in interlanguage (Adapted from: Ellis, 1985, p. 76)

2.3 Early Studies on Variation

The earliest investigation of variability in language began with the work of traditional dialectologists whose interests were primarily in explaining regional differences in speech performance. Their major preoccupation was 'to produce a geographical account of linguistic differences, the product often taking the form of a series of maps showing the broad areal limits of linguistic features (usually lexical or phonological) chosen for studies. Boundaries show where form A gives way to form B; a dialect boundary is said to exist where a number of isoglosses more or less coincide.' (Milroy, 1987 b, p. 8)

The traditional dialectologist's prime interest was not focused on patterns of language use but rather on older linguistic forms in their natural setting obtained by concentrating their investigation on speakers and locations which were relatively free from external influences. As Kurath (1972, p. 13) states:

> 'In Europe, the practice has been to confine the survey to the speechways of the folks, and to give prominence to the oldest living generation in rural communities. A predilection for historical problems, the hope of shedding light on processes of linguistic change by observing the linguistic behaviour of the folk, and admiration for the soil-bound 'ethos' or 'world-view' of 'natural' people have been the motives and justification offered for this practice.'

It is only since the 1960's, however, that many scholars have taken a shift of attention to other dimensions of linguistic variation, particularly the social aspect of it. When the Linguistic Atlas of the United States and Canada (LAUSC) was initiated, the field workers in the LAUSC were not only instructed to identify social groups within an area but also to note in their transcription whenever a particular linguistic item representing a more casual, spontaneous variety of speech was elicited. It was discovered that even a single individual speaker who came from one region and one social class produced variability in his/her speech throughout the day. This is a reflection of the idea that different tasks and different situations provide impetus for linguistic variation.

It is important to remember that while the focus of dialectologists in the United States had been on variability of language, the major trend of linguistic traditions during the same period had been oriented towards language as an invariable unit due to the significant influence of Ferdinand de Saussure who maintained the idea of language homogeneity with his 'langue' and 'parole' distinction. This resulted in a rift of orientation in language description between dialectologists and structural linguists. Structural linguists treated variability of speech, 'parole', as unsystematic deviation from 'langue'. Variation was dismissed as 'free variation' and should not be of any linguistic concern.

However, an attempt to produce a single, unified theory of language was made in 1954 when Weinreich wrote his influential paper entitled 'Is Structural Dialectology Possible?. Weinreich rejected the idea that language variation is random and

accidental, that the individual was seen as having a single system and deviation from it could be ignored in description since they were irrelevant to the basic structure of language. Weinreich agreed with dialectologists' idea of language variation and saw dialectology as more than mere collections of regional and social variants. In an attempt to unify differences in the view of language, he suggested that dialectologists should tackle the theoretical aspect of their study as well. He pointed out to the structural linguists that any study of perfect, idealised systems and theoretical positions which does not accommodate variability is incomplete and incapable of coping with the language. He maintained that although language is systematic, it is not homogeneous. If language is viewed within its social context, it can be seen that linguistic variation is governed by rules and is thus relevant to language description.

However, when Chomsky emerged as a prominent transformationalist, he continued the tradition of the homogeneity and invariable nature of language. This is clearly expressed in his goal for linguistic research;

> 'linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community... This seems to me to have been the position of the founders of modern linguistics, and no cogent reason for modifying it has been offered.'
>
> (Chomsky,1965, pp. 3-4)

It was not until 1966 when Labov produced his groundbreaking dissertation entitled 'The Social Stratification of English in New York City' that linguists were led to a new dimension of language study. Labov, who himself was a student of Weinreich at Columbia University, recognised that language is both systematic and inherently variable. This is clearly evident in his work which demonstrated that speech differences (or phonetic variants) are sensitive to social differences of various kinds. A particularly well-known example of this phenomenon is the

pronunciation of /r/ in New York city where speakers use prestigious post-vocalic or final /r/ much more frequently when they are conscious of their speech.

Labov's work was so profound that it led linguists into a new dimension of language investigation by reinforcing the idea of variability and the heterogeneous nature of language.

In one of his earliest investigations on social class variation, Labov studied the pronunciation of postvocalic and final /r/ of department store clerks in three New York City stores: S. Klein, Macy and Saks which during the period of his investigation catered to the lower class, the middle class and the upper middle class respectively. Labov made an assumption that the speech of the clerks would be representative of the social class of their customers. In this investigation, Labov used the word 'fourth floor' in order to elicit both the variables under investigation and the different speech styles i.e both casual and careful. He asked the clerks in all the department stores one after another, the location of the department which he knew to be situated on the fourth floor. Being busy and occupied with their work , the clerks would give a quick and unmonitored response resulting in their casual speech style. In order to elicit a careful style, Labov pretended not to hear the initial response and asked for a repetition of the information. This time, the clerks would make a conscious effort to be clear with their pronunciation, resulting in a more careful style. Labov's results show that clerks at Saks employed the most /r/ in their casual pronunciation, followed by those at Macy while the clerks at S. Klein produced the least /r/ in their speech production. However, all produced more /r/ when they were being careful with their pronunciation. This confirmed Labov's hypothesis that the pronunciation of the prevocalic and final /r/ is a reflection of social class differences and that the production of the variable is more frequent when the speakers are conscious of their speech than they are not. **Figure 2.2**

demonstrates the percentage of /r/ in the speech of the clerks in three New York department stores.

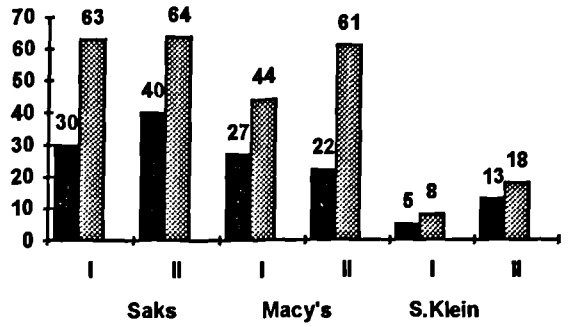


Figure 2.2 Percentage of (r); [r] in first (I) and second (II) utterances of *fourth* (dark) and *floor* (light) in three New York City department stores

source: based on Labov (1972, p 52)

In this famous investigation , Labov demonstrates that the more careful the speech, the greater the production of what is perceived as a prestigious variant by the community of speakers and that the speakers' production of the prestigious variant correlated with their social class differences. (for details of this investigation, please refer to Section 3.1)

A similar study of language variation within the context of social class was conducted in Norwich by Peter Trudgill. Trudgill (1974), investigated sixteen different phonological variables in his study in Norwich; three consonantal variables and thirteen vocalic variables. The cosonantal variables were /h/, /t/ and /ŋ/ while the thirteen vocalic variables were the vowels used in the words such as *bad, name, path, tell, here, hair, tide, bird, top, know, boat, boot and tune.* In this study, Trudgill distinguishes five social classes: lower working class (LWC), middle working class (MWC), upper working class (UWC), lower middle class (LMC), and middle class (MMC). Trudgill employed Labov's interview method which includes a variety of tasks designed to elicit different speech styles. The results

confirmed his hypothesis that certain variables are used more often by speakers of upper class than by their lower class counterpart i.e a strong relationship between production of certain variables and the social class differences. For example, he demonstrates the /ŋ/, /t/ and /h/ variants as in words like *singing, butter and hammer* are more frequently found in the speech of upper social classes while the corresponding /n/ , /ʔ/ and /ø/ are more frequently used by the members of the lower working class. His results also indicate that, for example, as far as /ŋ/ is concerned, its production is not only related to social class but also to sex, with female subjects showing a greater preference for /ŋ/ than the male subjects, irrespective of social class differences.

Another interesting investigation on social class variation in English speaking communities was carried out by Leslie Milroy and James Milroy. Milroy and Milroy (1975) studied the speech behaviour in three working class communities in Belfast: The Hammer, a Protestant area in West Belfast; the Clonard, a catholic area in West Belfast; and Ballymacarrett, a Protestant East Belfast area. These three areas are socially different in a number of ways. The Ballymacarrett has low male unemployment, close male relationship and clearly defined activities between male and female with men working within the area and women working outside. The Hammer and the Clonard on the other hand, have considerable male unemployment (about 35 %), male relationships were less close than in Ballymacarrett and there was no clear distinction between men's and women's activities. Each group has a strong sense of identity and of the boundaries of their area. They were also characterised by 'dense networks' and a high degree of 'multiplexity'. 'Dense' refers to the fact that many people share the same social contexts, while 'multiplexity' refers to the fact that people are linked to one another in several ways simultaneously, for example, kin, neighbours or fellow employees attending the same church and going to the same club. Of all those groups, the Ballymacarrett was the most stable and had the highest scores for dense network and multiplexity.

The results show that the greater the network strength, the greater the production of certain linguistic variants identified with the Belfast vernacular. In analysing their data, the Milroys attempted to follow Labov's procedure of classifying the speech into five speech styles. However, they were only able to identify two speech styles, i.e the interview style and the spontaneous style. They could not place reading style and conversational style along the same stylistic continuum due to different values attached to literacy by the community. For instance, in some cases the subjects were illiterate while in others, they regarded reading fiction aloud as culturally strange. However, The Milroys' findings demonstrate that solidarity could result in the maintenance of certain vernacular varieties which is a reflection of some kind of group identity.

The early variation studies outlined above were primarily concerned with social class variation which occurs within the context of English speaking communities. However, the application of the method was later extended into second language research.

2.4 Studies on Interlanguage Phonology

One of the earliest studies on IL phonology to apply Labov's methodology was Dickerson (1974). Dickerson examined both the influence of linguistic context upon IL variability and the effect of 'attention to speech' in causing IL stylistic variation. She investigated the occurrence of English /z/ in the speech of ten Japanese speakers of English who had studied English for six to twelve years in Japan before studying the language at the University of Illinois. She collected data on three separate occasions over a period of nine months using a three-part Labov style test consisting of free speech, dialogue reading and word list reading. Dickerson found that the subjects produced variability in their speech production. They produced a

wide variety of sounds (variants), each intended to represent the target sound in English. One Japanese subject employed the following phonetic variants when he produced the English /z/:

[ø]	(his dog: [hi_ dog])
[s]	(these books: [ðiys buks])
[dz]	(size: [saydz])
[ʇ]	(these jokes: [ðiyʇ jowks])
[z]	(she's at home: [siyz ət howm])

Dickerson also demonstrated that there was a relationship between variants and phonetic environment of the TL sound. The effect of the phonetic environment (the consonants and vowels adjacent to the TL sound) on learners' speech performance is illustrated in Figure 2.3 below:

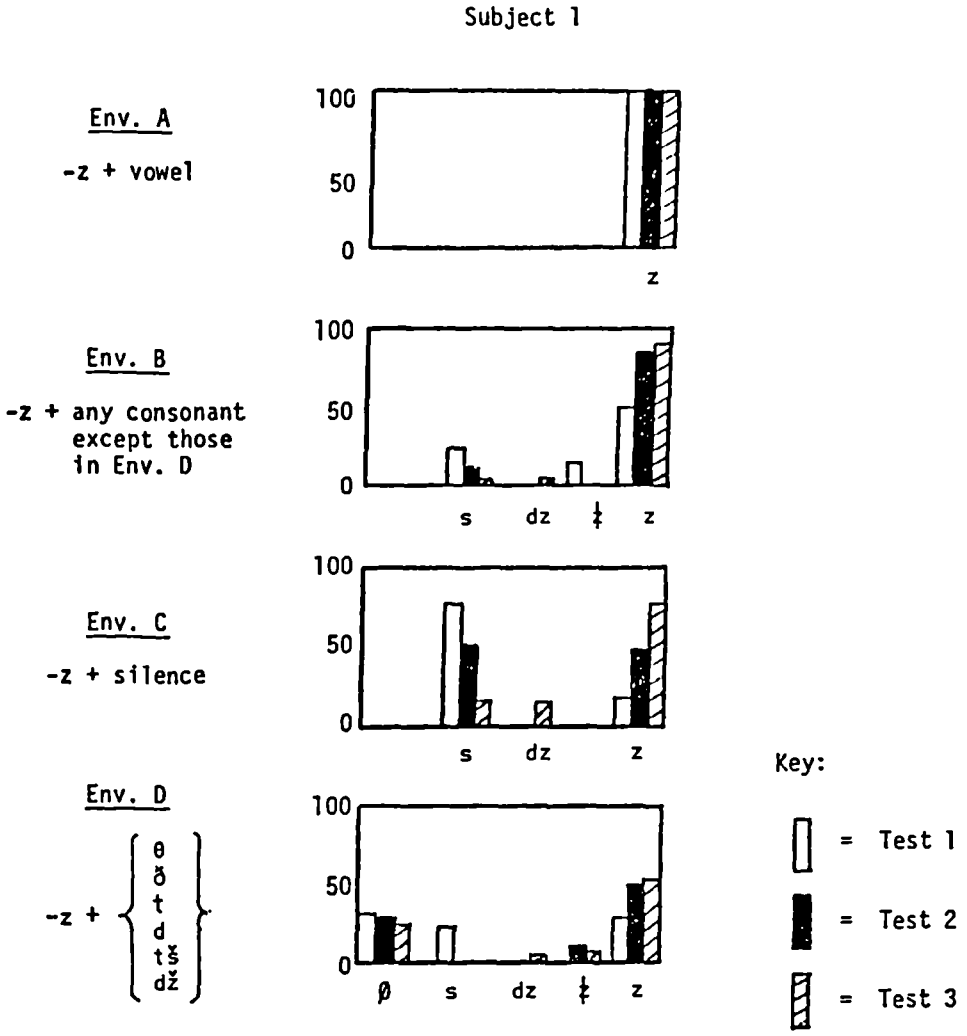


Fig. 2.3 Bar Graphs of the Variable /z/ in Dialogue Reading. (source: Dickerson, 1975, p 403)

The four boxes in Figure 2.3 represent one particular subject's pronunciation of the target English /z/ in four different phonetic environments (Env. A, Env. B, Env. C, and Env. D) in dialogue reading in three different tests (Test 1, Test 2, and Test 3). The height of the bars indicates the proportion of words said with specific

variants at one test time. The results indicate that the subject produces a greater proportion of target English /z/ in some phonetic environments than in others. For instance, in Env. A the subject produces the variant [z], the target sound in all words in this environment, whereas in other environments, viz. Env. B, Env. C and Env. D, the same subject produces a slightly different set of variants if not the target sound. In Env. B and C, for instance, the subject produced two other variants viz. [s] and [dz] in addition to [z] and in Env. D, the subject produces three other variants viz. [ø], [dz] and [ʧ] in addition to the target English [z].

Dickerson's results also demonstrated the effect of style on the subject's speech production. The subject produces variability in pronunciation in each different stylistic environment; word list reading shows the highest percentage of the TL variant while free speaking shows the lowest percentage of the TL variant. Dialogue reading lies between the two speech styles.

Dickerson also demonstrated that for the same community of language learners, variability in speech performance is also systematic. Her results show that all subjects use the same set of variants for the same target sound and this seems to be consistent from one subject to the other. For instance, all subjects produce the variants [ø], [s], [dz], [ʧ], and [z] for the English /z/.

Another investigation on IL phonology was undertaken by Schmidt (1977) who also assigned Labov-style tasks to his Arabic learners of English. His subjects were asked to perform the tasks both in Arabic (L1) and English (L2). The phonemes investigated by him were the English consonants /θ/, /t/ and /s/. A list of minimal pairs was used to elicit most 'attention to speech'. Schmidt's findings are illustrated in Table 2.1 below.

Table 2.1 Realisation of the TH-variable in Arabic (L1) and English (L2) by all subjects (Schmidt, 1977)

Percentage of inter-dental pronunciations (as opposed to t, s)	Reading passage	Word list	Minimal pairs
Arabic (L1)	33%	64%	77%
English (L2)	54%	73%	73%

The results show that the pattern of 'attention to speech' holds regardless of whether the language is native or non-native.

Gatbonton-Segalowitz (1975) studied phonological variables in the English of French Canadian and found that casual speech recorded the lowest level of accuracy compared with formal speech and reading aloud.

Another study on IL phonology was carried out by Beebe (1980) who investigated the English consonant /r/ in word initial and final position in two verbal tasks; namely word list reading and conversation in Thai learners of English. Beebe examined a case where the 'careful variant' differed in the NL and TL. The results show that the subjects produced /r/ variably depending upon whether they were conversing or reading word lists. In producing final /r/ in English, the subjects followed the general pattern as noted by Dickerson and Schmidt, producing more TL variants in the careful style than in the casual style. Final /r/ was 36.5% correct in the casual style and 72.2% correct in the careful style. However, in producing initial /r/, the subjects produced an irregular pattern, that is, they produced the TL variant less (i.e. 8.9%) in their careful style and more (i.e 38.5%) in their casual

style. She noted that their careful style contained more L1 variants of initial /r/ than did their casual style. Beebe points out that these L1 variants are in fact prestige variants of initial /r/ which are used more frequently in careful style in Thai. It seems that the subjects were using more prestige L1 variants in their careful IL style. Beebe concludes that 'attention to speech' in IL production may not always result in TL variants. It may at times result in more of the prestige L1. As she points out, the level of correctness in the subjects' performance in a formal task (such as word list reading) in the TL depends on the social meaning of the variable in the native language.

One other study was carried out by Weinberger (1987) on four native speakers of Mandarin Chinese learners of English. Weinberger studied variation in two word-final syllable simplification strategies employed by his subjects which were: epenthesis, a process where a final consonant cluster is broken up by the insertion of a vowel resulting in the formation of another syllable (e.g from [tɒkt] to [tɒked]); and deletion, a process where a final consonant cluster disappears from the underlying form (e.g from [tɒkt] to [tɒ]). He assigned his subjects three tasks i.e word list reading, paragraph reading and narrative. In the first task, the subjects were asked to read aloud the word given on the front of the cards (e.g 'talk'), and then the subjects were asked to produce the word from the cue given on the back of the card (past or plural cue e.g 'talked'). In the second task, the subjects were asked to read a paragraph containing many of the same consonant clusters found in the word list and in the final task, the subjects were asked to narrate a story about a frightening experience they had while in America. Weinberger's results reveal that the rate of epenthesis produces no significant variation cross the tasks. However, a significant difference in the rate of deletion was recorded (i.e 5.5% in the word list reading, followed by 13.3% in the paragraph reading and finally 11.8% in the narrative task. His results suggest that formality or informality based on 'degree of

attention to speech' is not the only way to account for the differences in the subjects' interlanguage phonology.

There is no doubt that there are numerous other studies undertaken on interlanguage. Since they are not directly involved with phonology, the writer has no wish to discuss them here. Young (1991 p 30-33), presents a summary of 21 previous studies of interlanguage variation in the form of a table. He classifies the studies according to the nature of the independent variable viz. task, interlocutor, topic or linguistic environment; and according to the dependent linguistic variable viz. phonological, morphological or discourse.

2.5 Stylistic Variation

Second language speakers, like native speakers, demonstrate style differences in their speech behaviour. They shift their styles according to varying social contexts and speech situations and no single individual who is communicatively competent speaks the same all the time. We shift styles to indicate varying degrees of social distance. We do not normally speak the same way to strangers as we do to people who are close to us. Speech events also influence the patterns of our speech styles. People normally use a casual style in for instance, a conversation with close friends in an informal setting but employ a more careful style as the setting becomes formal. Style shifting can also be attributed to class, as well as to other factors such as sex, age, education and geographical backgrounds.

Style in the context of this research can be defined as 'a change in linguistic behaviour accompanying a change in verbal task.' (Dickerson, 1975, p 405). Dickerson approaches stylistic variation in terms of verbal tasks, For instance, a

higher proportion of TL variants are produced in reading styles than in spontaneous speech styles.

In the most simplistic terms, speech performance can be viewed as a unidimensional continuum. At one end of this continuum is the formal style which contains a higher percentage of features of TL norms, while at the other end of the continuum is the casual style which contains a lower percentage of features of the TL norms. Language learners shift along this continuum of styles by using different variants in accordance with the context of situation. This representation was motivated by Labov (1972, p 208) who states that 'Styles can be arranged along a single dimension measured by the amount of attention paid to speech'. Thus, the casual style was said to be the product of least attention to speech, while minimal pair style was the product of the most attention paid to speech production.

Tarone (1983, p 152) also represents the effect of situational context as a continuum of IL styles. At one end of the continuum is the vernacular style which is called upon when learners are not attending to their speech. At the other end of the continuum is the careful style which is clearly evident in tasks which require learners to make a grammatical judgement (e.g correct vs. incorrect sentence). The careful style is called upon when learners are attending closely to their speech. Thus, the stylistic continuum is the product of differing degrees of attention reflected in a variety of performance tasks. Figure 2.5 summarises the whole idea of the IL continuum as represented by Tarone.

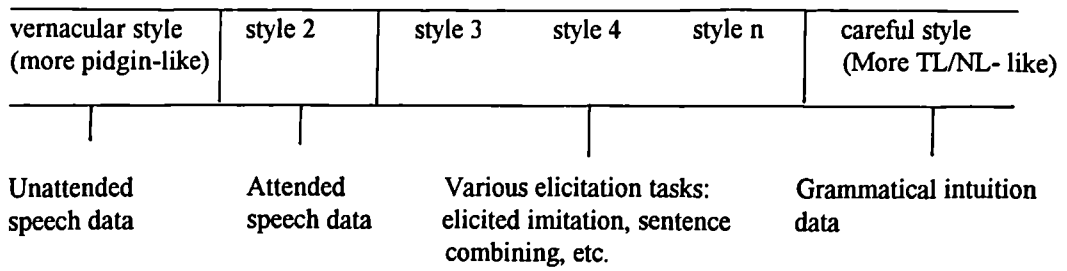


Fig. 2.4 Interlanguage Continuum (source: Tarone 1983: 152)

2.6 Causes of Variation in Interlanguage

There are a number of models which have been developed in order to account for the causes of variation in interlanguage. Broadly speaking, these models are classified under two major categories by Tarone (1979); The first type of models are based on inner psychological processes of one sort or another (e.g extension of Labovian model by Dickerson (1974) and Tarone (1985)) while the second type of models are derived from the field of sociolinguistics and discourse (e.g extension of social psychological models of Giles by Beebe (1982), Beebe & Zuengler (1983) and the function-form model of Huebner (1983)).

In this section, only the two types of models which seem to have significant influence on the interpretation of IL data will be outlined. These two models draw upon different views of what causes variation in IL.

The first type of model is the Labovian model of 'attention to speech' which has its root in inner psychological processing theories. This model emphasises the significant influence of inner psychological (mental) processes upon individual

speakers' patterns of stylistic variation. The model is based on William Labov's work on the style stratification of native speakers of a language. Labov's model aims at describing accurately the systematically variable patterns of a speaker's speech production in a multiplicity of situations. Details of Labov's methodology are found in Section 3.1.

The main tenet of his model is that attention causes style shifting in speech performance. Attention to speech is seen as the cause of synchronic task-related IL variation. According to Labov, 'attention' causes a speaker to produce a style which is closer to his formal norm which is characterised by a high percentage of TL forms as well as features of the speaker's native language. However, when the speaker pays less attention to his/her speech, s/he would produce a more 'vernacular' speech style. Though Labov did not specifically address interlanguage, his model has been extended to second language acquisition research. Interlanguage researchers who have worked with the Labovian paradigm include L. Dickerson (1974, 1975), W Dickerson (1976), Dickerson and Dickerson (1977), Schmidt (1977), Tarone (1979, 1982, 1983, 1985), and Beebe (1977, 1980).

Another type of model put forward to account for the style shifting variation arose from the field of social psychology. This model focuses upon the importance of broad social context in influencing the patterns of IL variation. This model is the product of the work of Giles and Smith (1979) who propose that speakers vary their speech style in an effort to accommodate to their interlocutor/s and thereby achieve their own social purposes. This theory is called Speech Accommodation Theory (SAT). The main facet of this theory is that speakers may 'converge' with their interlocutors in an effort to show themselves similar or, alternatively, maintain their own way of speaking or even, if they wish, to dissociate themselves from their interlocutors, and show a pattern of 'divergence' from the speech of those they are

interacting with. The forerunners in the application of SAT in explaining causes of IL variation are Beebe (1982) and Beebe and Zuengler (1983).

Beebe (1982) argues that IL style shifting depends on the crucial social psychological factors of intergroup distinctiveness and identity insertion. She agrees with Giles in the view that speech styles are the product of adjustments and modifications. These processes result in one's speech sounding more like that of the interlocutors, i.e a pattern of 'convergence'. On the other hand, speakers may move away or 'diverge' from the speech pattern of their interlocutors when they refuse to adjust their speech to their interlocutors. Speakers may also converge toward speakers who are not physically present, rather than their own interlocutors. In other words, they may shift their speech towards the speech pattern of their own reference group in order to assert their own identity in relation to the various social groups they come into contact with.

This model rejects the idea of 'attention to speech' as the end cause of variation and strongly supports social factors as the ultimate cause for the process of variation which occurs in IL speech production. The model places a special view on the role of interlocutors as the factor which leads to variation in IL.

Nevertheless, both models seem to have evidence of one sort or another to support their claims. From the findings of the previous research, there is evidence to prove that there must be some sort of mental process which is the cause of IL variation, while social context of various kinds could as well be the cause of variation. Dickerson (1974) claims a positive correlation between 'attention to speech' and the use of accurate TL variants and Tarone (1982, 1983) views it as the cause of IL style shifting. Beebe (1982) points out the shortcomings of the claim made by Dickerson and Tarone. She argues that 'attention to speech' is inadequate as an explanation for variability in Interlanguage. She suggests factors such as

ethnic identity, solidarity, topic expertise and the relative status of participants provide better explanation for variability in interlanguage.

As mentioned in Chapter 1, it is the intention of this study to see to what extent 'attention to speech' affects variation in the IL phonology of Malaysian learners of English and to determine its relative causal contribution to the variability in the learners' speech production and at the same time to establish whether other factors also operate within the IL system of learners who come from various ethnolinguistic backgrounds.

Chapter 3

Research Design and Methodology

3.1 Research Methodology

The model in this research is the variability model developed by William Labov (1970) for analysing or showing stylistic variation of speakers at a given period of time (i.e synchronic variation). This model has been extensively used in studies of sound change in native language (L1) and its application has for the first time, been extended to second language acquisition (SLA) research by Dickerson (1974) when she studied the IL phonology of Japanese learners of English at the University of Illinois. It is worthy of note here that this variability model was adapted for second language research because there were no SLA models to account for variability in the speech of L2 learners of English and it seems that most researchers involved in the investigation of style shifting within the interlanguage have mainly followed the methodology developed by Labov, employing elicitation tasks and interviewing technique (see Dickerson (1974), Schmidt (1977), and Tarone (1983).

Beebe (1982) described Labov's methodology as follows:

> 'His methodology is based on manipulating the situation to elicit shifts in speech styles.....verbal task is Labov's primary tool. He uses face-to-face interview conversation to elicit 'careful speech', the reading passages to get his 'reading style' .....Sometimes Labov's casual style is obtained outside the interview in, say, an unanticipated telephone call from a close friend or relative.'

Labov (1970,p 208) has provided a very specific set of methodological guidelines to be employed in data gathering on style stratification. He outlines five methodological guidelines about how to study language use which are of central importance in understanding the nature of variability in the interlanguage phonology of L2 learners. They are as follows:

(i) **'style shifting'**. All speakers possess several 'styles' which they constantly adapt according to different social contexts.
(ii) **'attention'** 'Styles' can be ranged along a single dimension, measured by the amount of attention paid to speech. Language user's speech production varies along the dimension depending on the degree to which they are able to attend to (monitor) their speech in different contexts.
(iii) **'the vernacular'**. The 'vernacular' is the style in which the speakers give minimum attention to their speech. It is characterised as informal spontaneous speech.
(iv) **'formality'**. In a formal context, such as an experiment, it is not possible to obtain the vernacular style of speakers by systematic observation of how they perform because the formal context requires the speakers to give more than the minimum attention to their speech.
(v) **'good data'.** Good data can only be obtained through systematic observation but the aim of linguistic research is to describe how people talk when they are not systematically being observed.

The conflict between the fourth and the fifth guidelines leads to what Labov referred to as the 'observer's paradox', which researchers must keep in mind when gathering data. What he means by this is that researchers are interested in obtaining data on how people speak when they are not conscious of being observed, but good language data requires systematic observation. This prevents access to the speaker's

vernacular style. However, to overcome this paradox, Labov suggests that researchers can manipulate the interview situation to elicit shifts in speech styles. For instance, by asking subjects questions which will divert their attention from the interview situation, causing them to become so involved in the content of their speech (*what* they are saying) and forget the form of their speech (*how* they are saying it).

Labov employed this sociolinguistic model when he carried out his study in 1966 on the variability of the speech patterns of New Yorkers. He obtained phonological data from a multiplicity of tasks to reflect the stylistic stratification of speakers, ranging from casual to careful style. He classified the elicitation tasks into five speech styles to correlate with the set of tasks he had designed and, according to Labov, speakers shift their styles depending on the degree of attention they give to their speech. The five speech styles are as follows: (i) careful style, (ii) reading style, (iii) word list style, (iv) minimal pair style and (v) casual style.

Labov classified speech produced during interview as a 'careful style' since it consisted of a formal speech situation in which speakers would be likely to pay attention to their speech. In the 'reading style' subjects would pay more attention to pronunciation while reading the text aloud. As the subject read individual words in the word list, they would pay greater attention to their speech production and produce more careful features in their pronunciation, while in the 'minimal pair style', subjects would give the greatest attention to their speech resulting in the most careful speech style of all. On the other hand, in the 'casual style' the subjects gives least attention to pronunciation. To elicit this style, Labov asked his subjects a question concerning dramatic events in their own life by asking 'Have you ever been in danger of death? If the subjects answered 'yes' then the interviewer would proceed to ask them to relate the story of what had happened. In doing so, the

subjects would be so involved in recounting the dramatic event in their lives that they would pay the least attention to their speech.

Labov employed the methodology outlined above in his work on the social stratification of English in New York City which he carried out in 1966. This research has been of profound importance in the field of sociolinguistics, particularly in the study of language variation. In this investigation, he defined the entire city as a 'speech community' on the basis that its speakers shared norms for the evaluation of speech. That is, although New York city speech itself is heterogeneous, Labov pointed out that speakers would prove to be united in their attitudes towards the forms used in their community. Labov hypothesised that all speakers have available to them a range of styles, the more careful their speech, the greater the frequency of production of the forms regarded as prestigious by the community, and that speakers have differential control over the frequency with which they are able to produce the prestige forms depending on their social class background.

Labov focused his study on a section of new York city called Lower East Side. Thanks to data obtained from previous sociological studies made in this area. Labov was able to interview groups of people in the area according to nine social classes based on income, occupation and the education level of the head of each household. The interviews were tape- recorded in the homes of the subjects and the tasks were carefully designed to test his hypothesis by eliciting a series of different styles from each subject, namely, ' 'careful style', 'reading style', 'word list style', 'minimal pair style' and 'casual style' using the methodology outlined on the previous page.

The variables investigated by Labov were the sounds used for pre-vocalic and final /r/, the vowels /oh/ and /eh/ (Labov's transcription)and the consonants /θ/ and /ð/.

According to Labov, the speech of upper middle class members of the New York city speech community would be marked not by the total absence of the stereotyped features under investigation but rather by their low frequency of occurrence and that speakers of all social classes would vary according to the formality of the situation. Thus the prestige pronunciation of the variables would be more frequent in formal contexts while socially stigmatised variants would be more frequent in casual contexts.

Labov's work is not without its critics but that does not mean his methodology should be totally discarded. His methodology has relevance in some areas of research particularly those involving elicitation of speech production through a multiplicity of tasks. As far as the present research is concerned, the methodology has been adapted to suit the needs of the situation. Since this investigation is concerned with variability in the speech production of Malaysian learners of English, the researcher feels strongly that Labov's methodology is suitable within the context of the research.

3.2 Subject Selection

3.2.1 Sampling

Since part of the main focus of this study is an investigation of variability in IL phonology in the context of multiethnicity in Malaysia, the subjects are selected from the three major ethnolinguistic backgrounds, viz. Malays, Chinese and Indians.

The subjects in this study are learners of English at the University of Science, Malaysia, who are either majoring or minoring in English. They are selected on the basis of availability and easy access. It is not the intention of the researcher to carry out a study on learners of English in school setting or other institutions of higher learning in Malaysia as it would be time consuming and unmanageable. Also, research of this nature, which focuses on experimental tasks, requires a proper studio so as to avoid any kind of distraction during the recording sessions and to obtain the best possible quality of recordings.

Initially, the researcher intended to focus the investigation on first year students and to select the subjects randomly from the name list obtained from the students register at the School of Humanities. However, this was not possible as students from each ethnolinguistic background were not equally distributed. For instance, there were fewer than five Malay students out of a total population of thirty three students registered in this course during the semester. Then , the researcher had to move on to the second year students. Unfortunately the response was very poor so much so that the whole idea had to be put aside completely. One of the reasons was that students had a tight schedule at the beginning of the semester. This left the researcher with no choice except to resort to third year students and the response was overwhelming. It should be noted that the subjects in

this group are familiar with the researcher as they were taught by him in their first year of study at the university.

The name list of the subjects involved in this study was obtained from the students register at the School of Humanities. The researcher did his best to avoid prejudice in the selection of the subjects. As far as the subjects' ethnic background is concerned, the researcher is well aware of the complexity surrounding the definition of the term ethnicity. As far as the subjects in this study are concerned, the researcher had no difficulty in identifying the subjects' ethnic background as the information could be obtained from the students' register. Once the name of the subjects were identified, a meeting was held with the third year student's representative and the subjects were then informed about the research. Following that, arrangements were made with individual subjects to determine a suitable time for the interview. As mentioned in the previous paragraph, the subjects' response to participate in the research was overwhelming. It should also be noted here that the subjects were pleased to see the researcher again after the researcher his absence of more than one year to undertake his postgraduate studies.

The total number of subjects in this study is thirty equally representing each of the three major ethnic backgrounds of the student population i.e ten subjects each from Malay, Chinese and Indian backgrounds respectively.

The subjects' real identities are not revealed in order to protect their interest. Each subject is referred to by number (i.e S1 - S30). As far as their ethno-linguistic background is concerned, they are identified according to order of numbers, i.e S1 to S10 comes from a Malay background, S11 to S20 comes from a Chinese background and S21 to S30 comes from an Indian background. The subjects in this study are also divided into three ethno-linguistic groups in order to facilitate analysis of group performance. They are: Group 1 (G1), Group 2 (G2) and Group 3 (G3) representing Malay, Chinese and Indians respectively. (see Section 6.3).

Unfortunately, it was not possible to have an even number of male and female subjects. Only two of the total population are male (S4 and S26) and the rest are female. It should be noted here that it is not the intention of this study to investigate variability arising from gender differences.

3.2.2 Background of the Subjects

As mentioned in the previous section the subjects in this study are either majoring or minoring in English. Generally, the subjects had been exposed to English since they attended their elementary education. It should be noted here that selection for admission to either major or minor in English is made on the basis of achievement in the subject. It should be noted here that the subjects in this study have a high level of proficiency in English. Their admission to the course is based on their performance in the Malaysian Public Examination (SPM). In this sense, the subjects in this study could be regarded as homogeneous in nature.

The subjects too, had received an introductory course in English, i.e HEA 101 in the first year of their study at the university. The course is basically a six hour per week course consisting of English grammar, pronunciation and oral presentation. The subjects received an hour of lecture and tutorial for the grammar component, one hour of lecture and two hours of tutorial for the pronunciation component, and finally one hour of oral presentation. On top of that, they also had to spend a minimum of three extra hours per week in the language laboratory in order to complete their recorded exercises since much of the instruction in the course was focused on aural-oral method.

As far as pronunciation is concerned, the subjects are taught English pronunciation both at segmental and supra-segmental levels. They are also exposed to basic articulatory phonetics and broad phonetic transcription. The model of

pronunciation is English Received Pronunciation (RP). The subjects would be expected to use this variety during the lessons. They were being tested on their pronunciation and basic phonetic knowledge of English at the end of the period of instruction. As a result, the subjects have considerable knowledge of linguistic norms of correct pronunciation according to RP.

It should be noted here that the subjects would largely employ their local variety of English in their everyday communication in the language. Other than that, they would either switch to their respective native language or the Malay language which is the language of instruction in local schools and institutions of higher learning. The subjects in this study are proficient in both English and Malay.

The subjects in this study are also well-exposed to the atmosphere in the language laboratory as most of the instruction was carried out there. They are also familiar with recording instruments such as tape-recorders and microphones. Since tape-recorders are a normal part of teaching equipment, the subjects are less likely to be made nervous by their presence. A further contribution to the subjects' lack of nervousness is the fact that they know the researcher well. It should be noted here that prior to this study, the researcher had already established a friendly and casual relationship with the subjects when they were involved in a drama project organised by the English Language Society of the University of Science, Malaysia (USM). This gives the researcher the advantage of being an 'insider' when eliciting the subjects' casual speech style in free conversation. The result of this relationship is that the subjects seemed to be relaxed during the free conversation as they told the researcher about their everyday experiences.

3.3 The Choice of Variables

The prime focus of this study is English consonants. It is not the intention of the researcher to investigate either English vowels or supra-segmental aspects of phonology such as stress, rhythm and intonation. To cover all areas of pronunciation would be beyond the scope of this thesis.

The variables investigated in this study are: the voiced and voiceless dental fricatives /θ/ and /ð/, the labio-dental fricative /v/, the approximant /r/ and the stop consonants which occur in final position in English words /p, b, t, d, k, g/.

The variables were chosen on the basis of contrastive analysis and error analysis between the native language and the target language and are representative of the more common types of problems that Malaysian learners of English have (see Platt and Weber (1980 pp 70-73), Wang (1987)). This analysis has also been made possible due to the experience of the researcher dealing with the subjects at the university.

3.4 Data Collection

The procedure for data collection in this study was an interview method with individual students using a four-part, Labov-style, self-administered test. The interview was held in the recording studio of the Centre for Languages and Translation, University of Science, Malaysia.

3.4.1 Measurement Instruments

The main measurement instruments developed for data collection in this study were the test materials which were compiled from contrastive analysis and error analysis data. The materials were designed to elicit the production of the variables under investigation.

3.4.2 Test Materials

3.4.2.1 Test Design and Content

Since the main focus of this study is on IL as a variable system, it is essential that data are gathered from a range of tasks to reflect stylistic variation of speakers. Thus, the subjects were given a four-part test consisting of:

(i) casual conversation
(ii) the reading of word lists
(iii) the reading of minimal pairs

(iv) the reading of dialogues

The test items were designed specifically to elicit the production of the target variables. Each component item contains examples of all of the phonemes under investigation occurring in a variety of linguistic environments. The tasks given in the tests require that a different degree of attention be paid to speech production as subjects were asked to perform in a variety of verbal tasks reflecting a range of situational contexts from casual to formal.

In this study, free conversation is regarded as casual since the task tends to focus on content rather than form of speech. Casual conversation causes subjects to pay more attention to the linguistic content as a whole, resulting in less attention being given to the production of each individual word. In addition, since the subjects are actively engaged in the conversation, they have little time to focus on the production of each individual word. As a result, they are likely to produce a variant which is more distant from the TL sound. As explained in Section 3.2.2 due to the friendly and casual relationship established between the researcher and the subjects prior to this study, the subjects seems to be relaxed during the free conversation. This resulted in the subjects being able to tell the researcher about their everyday experiences in a casual manner. As they were engaged in recounting their experiences they have less time to attend to the form of their speech resulting in the use of casual style in their speech performance. However, when the subjects read the dialogue, they have a better opportunity to focus more on the word itself. Since most of the sentences in the dialogue require the subjects to perform at a faster pace, then they would still be likely to pay more attention to the content. However, when the subjects read the word list, they are more likely to give greater attention to the production of the individual word. This is because the pace is slower than in dialogue reading. As a result, it would give more time for them to attend to their speech. Finally, when the subjects read the minimal pairs, they would

be likely to give much greater attention to their speech resulting in the production of variants which are closer to the TL variants.

3.4.2.2 Description of Component Items

As mentioned in the previous section, the test items consist of casual conversation and reading aloud of word lists, minimal pairs and dialogue.

The interview technique used in the casual conversation task involved asking the subjects to relate their personal everyday experiences. This would help subjects from an ESL background to speak with greater ease. As the subjects recount their experiences, they would be actively involved in the process of narrating the events resulting in the production of more casual speech forms.

It should be pointed out here the risk of replicating Labov's interview technique of using the 'danger of death' question in order to elicit casual speech. In his interview Labov asked his subjects the question 'Have you ever been in danger of death?' and as Labov (1966, p 107) points out 'If the informant answers 'yes', the interviewer pauses for one or two seconds, and then asks, 'What happened?'. As the informant begins to reply, he is under some compulsion to show that there was a real danger of his being killed; he stands in a very poor light if it happens that there was no actual danger. Often he becomes involved in the narration to the extent he appears to be re-living the critical moment, and signs of emotional tension appear.'

According to Labov, this question was intended to direct the attention of the subjects from the interview situation resulting in their being so involved in the narration of the dramatic moment in their lives that they would speak in their most 'casual style'. It appears that this technique of eliciting responses may cause the subjects some difficulty. It may cause unnecessary tension in the subjects resulting in their not being able to produce their most casual style. Some subjects may not

like the idea of telling others of critical moments in their lives as it may be too personal. For some, it could turn out to be a painful experience to recount a tragic moment in their lives. If a subject has never experienced 'danger of death', the researcher would get no response and this would jeopardise the whole research. Furthermore, this technique is not suitable in the present research because of the nature of the research itself. This research seeks to elicit a wide range of phonetic variables compared to Labov's investigation which involves only a limited number of variables.

Trudgill reported lack of success in his attempt to employ Labov's 'danger of death' question in his research in Norwich, suggesting perhaps Norwich people have led less eventful lives than New York City people. The researcher shares the same idea as Trudgill with regard to the life style of the subjects involved in the study compared to Labov's subjects in New York City. The use of 'danger of death' question may backfire due to cultural inappropriateness. Mutalik K (1974) in his sociolinguistic study on spoken Kannada in Bagalkot, India, employed another method of eliciting casual style. He used a picture which depicts the Hindu God and goddess to get his subjects to describe and speak at length on a familiar topic. He concluded that all his subjects fulfilled his expectation.

The second component of the test is the reading of word lists. This part consists of individual vocabulary which should be familiar to the subjects. The lists consist of twenty to thirty words containing the variables under investigation which occur in various phonetic environments. The aim of this component is to make the subjects carefully monitor their speech in order to produce either the TL variant or a variant close to it.

The third component consists of a word list in the form of minimal pairs in which members of each pair contain a variable which sounds similar which occurs

in the same phonetic environment. One word of each pair contains the variable under study. The pairs contain the common type of variants often substituted by Malaysian learners of English when they speak in their casual style. However, if the subjects were careful in their pronunciation of the words, they would be able to produce a distinction in pronunciation between the two words in the pair. The aim of this component is to make subjects conscious of their pronunciation so that they produce their most careful style.

The last part of the test is the reading of dialogue. The dialogues in this test are adapted from Ann Baker's 'Ship of Sheep'. The dialogue materials were carefully chosen to elicit all phonemes under investigation. It should be noted here that dialogue reading is not intended to test the subjects' ability to perform a dramatic act but rather to elicit a shift of pronunciation between formal and casual styles. It is worth mentioning too that the subjects were familiar with dialogue reading since they were well exposed to it in their pronunciation course undertaken in the first year of their study at the university. As a result they were able to read dialogue with ease.

As mentioned earlier, when the subjects read the dialogue, they would still focus on the pronunciation of the words in the text. However, since most of the sentences in the dialogue require the subjects to perform at a faster pace, then they would be likely to give most attention to the content of the text. As the pace is slower than casual conversation speech, it gives them more time to attend to their speech production. The results of Dickerson's (1974) study and the pilot study carried out by the researcher prior to the main research supported this. Dialogue reading provides a good opportunity for the researcher to elicit the transition stage between the two speech styles and to obtain features that are common in this style. (see Appendix M for details of the test materials).

3.5 Test Administration

The test was administered between the months of July and September, i.e the first semester of the 1992-93 academic year of the University of Science, Malaysia and it took approximately forty-five minutes to interview each subject.

The session began with free conversation followed by the other test items. It was essential in the opinion of the researcher, that the test began with free conversation. This is to make the subjects feel relaxed so as to enable the researcher to elicit the casual forms in the subject's speech. At the same time it is crucial that the subjects were not aware of the fact that the conversation was being tape-recorded. It would be difficult to obtain casual style at a later stage if the interview began with the formal part of the test. It is because the speakers would feel tense and tend to be too conscious of the fact that they are being tested on their pronunciation. As a result, they would be likely to produce a more formal style of speech. It should be noted here that despite the obvious presence of microphone and recording equipment, the subjects in the study did not show any sign of nervousness at all. This is due to the fact that the subjects are used to the presence of this equipment when they followed the pronunciation course with the researcher in their first year. The subjects were made aware of the fact that the prime focus of the meeting was on pronunciation. They were also made aware that their main reason for being there was to read the test items aloud and that their speech would be recorded. This was a deliberate policy on the part of the researcher to make the subjects attend to their speech later when they read the test items. However, the subjects were not aware of the fact that the free conversation at the beginning of the session was part of the test. This resulted in the session being very casual in nature. The researcher did the best he could to make the free conversation appear like a friendly meeting and a casual talk before proceeding to the test.

As mentioned in Section 3.2.2, the subjects were very excited to see the researcher again after more than a year away from home. The session began with friendly greetings with both the subjects and the researcher expressing how glad they were to see each other again. Some subjects asked the researcher questions such as how long would he be at the USM, when would he complete his study; some expressed how eager they were to meet the researcher again while some went to talk about their successful drama project after the researcher had left the university. One subject reported seeing the researcher in Leeds when she spent her holidays there but could not do anything about it because she was on a bus.

Later during the session, the topic of conversation revolved around the subjects' backgrounds (including their family, hometown, hobbies and interests etc). Due to the researcher's knowledge and experience visiting all the towns in Malaysia, this provide an opportunity for the researcher to get the subjects involved and to speak at length about their hometown and some of the issues related to it. Later, the subjects were asked to talk about their everyday experiences such as their life on the campus (such as some of the activities they did), their teaching experience (if any), their experience living in Penang (for outsiders). The subjects seemed to be very involved when they talked on those topics. One of the topics which aroused the subjects' interest most was the one on transport service in Georgetown. The main reasons for this is the distance between the university and Georgetown city which is approximately seven to eight kilometres. Many of them were disappointed with the service and expressed their preference for the taxi cab instead. Later the subjects were asked to express their view on current issues such as drug addiction in Malaysia and environmental issues. These topics provided the researcher with ample opportunity to elicit all the variables under investigation. The researcher is very pleased with the results of the free conversation and there is no doubt at all in the researcher's mind that the conversation is very casual in nature to the extent that

there is some evidence of code- mixing in some of the subjects' speech in the free conversation.

The interview session was conducted and administered by the researcher in the recording studio of the Centre for Languages and Translation, University of Science, Malaysia. The speech data of the subjects were tape-recorded. The recording was crucial for the transcription of data in fine detail ready for analysis.

The interview session was conducted in a sound-proof studio so as to avoid any sort of distraction. During the interview the subjects did not see other people except the test administrator (the researcher).

The speech data was recorded on a high quality tape-recorder using a high quality Sony Super Compact cassette HF60. The microphone was placed so as to ensure clarity in the recording and to eliminate other irrelevant noise. As mentioned earlier, the subjects were used to the presence of recording instruments due to their exposure during pronunciation instruction which took place in the language laboratory.

The timing for the test was essential so as to have a rough estimation of the time taken in each interview. The overall time taken for each subject in order to complete the test was forty-five minutes.

As mentioned earlier, the subjects were made aware that the prime focus of the test was on pronunciation and that they were also made aware of the fact that they were in the language studio to record their pronunciation of the test items. However, the subjects were not informed of the specific phonemes being tested. Nevertheless, the subjects would realise the nature of the target phonemes while reading word lists, minimal pairs and dialogues. However, when it comes to the test

items, the subjects were told that their speech would be tape-recorded so that they would attend closely to their speech production.

The speech data obtained in this study are treated with strict confidence to protect the interest of the subjects. As mentioned in section 3.2.2 the subjects real names are not revealed. Each subject is referred to by number (e.g S1 for subject number 1). The researcher has kept a copy of the details of each and every subject who participated in this research.

3.6 Data Analysis

The method of data analysis used in this study is a qualitative method employing computation of index scores based on the work of Dickerson. The procedures are as follows:

Basically, a value is assigned to each variant in the word group. To provide an example, let us look at variable /t/ produced by the Malay subject in the pilot study which was carried out prior to the main research.

The variants produced by the subject together with the index scores are as follows:

[ø]	[ʔ]	[t˺]	[t^h]	[t]
0	1	2	3	4

The value of 0 is usually given to the variant which is absent from the subject's speech, while the top value is given to the variant which is accurate. Thus, the [t] variant is given a value of four (4); [t^h] a value of three (3); [t˺] a value of two (2); [ʔ] a value of one (1) and [ø] a value of zero (0).

The computation of the score is as follows. The number of occurrences of each variant is multiplied by its respective value and the sum of all variant values is divided by the number of occurrences of all variants. The result is a percentage which is multiplied by 100 to give a whole number. For instance, if a subject has twenty-five /t/ responses, consisting of ten [t], five [t^h], five [t˺] and five [ʔ]; the index score would be computed as follows:

variants	number of occurrences		value of variants		
[t]	10	x	4	=	40
[t^h]	5	x	3	=	15
[t˺]	5	x	2	=	10
[ʔ]	5	x	1	=	5
	The sum of values			=	70

The sum of values of all twenty-five responses (i.e 70) becomes a numerator of a fraction, while the total possible values if all responses had been correct is four (4) (i.e 25x4=100) becomes the denominator.

Thus in this case, the index score would be:

$$\frac{\text{Total actual value}}{\text{Total possible value}} = \frac{70}{100} \times 100 = 70$$

It is important to mention here that the value of a variant should remain constant in any environment or style or from subject to subject. This makes it possible to compare environments of a variable and a style within and across individuals.

This method of data analysis which is based on single linear scale was used by Dickerson (1974) in her investigation of Japanese learners of English. Using this scale, a subject's performance is rated according to the specific target language norm. Since the model of English pronunciation in Malaysia (particularly in the

course undertaken by the subjects at the university) is RP, a simple linear scale is sufficient and appropriate for data analysis in this study.

The researcher is fully aware of the complexity of the language situation in Great Britain and the fact that many varieties of English exist in the British Isles. However, as far as the present research is concerned, the comparison is made on the basis of the TL norms as specified in the TL objective in pronunciation instruction at the University. Since the target language norm is clearly specified in the Malaysian syllabus, the researcher feels that it is adequate to adopt the single linear scale as a method of data analysis in this investigation.

Chapter 4

Report on Pilot Study

4.1 Background of the Study

A pilot study was undertaken in order to establish a sample of the patterns of interlanguage phonology in the speech of a typical Malaysian learner of English.

The two main objectives of the study were: first, to obtain empirical data to find out patterns of variability in the IL phonology of a typical Malaysian learner of English and secondly to test the suitability of the test materials for use in the main research to be carried out in Malaysia.

The main focus of this pilot study was on contextual variability arising as a result of different contexts of situation. i.e phonological patterning according to different verbal tasks i.e word list reading, dialogue reading and casual conversation.

The subject involved in this study comes from a Malay background. The subject had been exposed to English since he attended his elementary school in Malaysia. He also received an intensive training course in English before continuing his education in Leeds. The subject would normally communicate in Malay, his

mother tongue, with his Malaysian friends and his use of English is limited to his studies and communication with non-Malaysian speakers.

4.2 Research Methodology

The prime focus of this study was on English consonants, specifically /θ /, /ð /, /r /, /l/, /v /, /w / and stop consonants which occur in final position in English words /p, b, t, d, k, g/. These variables were chosen as representative of the more common type of problem that Malaysian learners of English have. The choice of the variables was made on the basis of contrastive analysis between L1 and TL.

The procedure for data collection was an interview technique using a three-part, Labov-style, self-administered test. The interviews were conducted in the recording studio of the Department of Linguistics and Phonetics, University of Leeds.

The data were gathered from a range of tasks to reflect stylistic variation of the subject. The subject was given a three-part test consisting of:

(i) casual conversation
(ii) the reading of word list
(iii) the reading of dialogues

Each component item contains all phonemes under investigation.

The test consists of two parts. The first part is the reading of word lists while the second part is dialogue reading. The test items consist of individual words which should be familiar to the subject. The reading of word lists consists of ten to

twenty individual words which are strictly intended to elicit the phonemes under investigation. The aim of the reading of word lists was to make the subject attend to his speech resulting in the production of the TL variant or a variant close to it while the dialogue reading was to intended to elicit another speech style - i.e reading style. According to 'attention to speech' hypothesis, this style should lie between the most formal and the most casual speech styles. Though in dialogue reading the subject would still focus on the pronunciation of the words in the text, he or she would be likely to give most attention to the content of the text because most of the sentences in dialogue reading require the subject perform at a faster pace. However, as the pace is slower than casual conversation speech, it gives the subject more time to attend to his speech production.

The test was administered at the end of the second term, 1992. The test was conducted and administered by the researcher in the department's sound-proof studio. The speech data were recorded using a high quality tape recorder (Denon) and then transcribed in fine phonetic detail.

During the interview the subject did not see other people except the test administrator (the researcher). The recording was made by the department's experienced technician to ensure smooth flow of the recording. The technician was present in a separate room and was not visible to the subject.

The overall time taken for the subject to complete the test was approximately one hour with thirty five minutes spent on casual conversation and twenty five minutes on the other test items.

The subject was made aware that the prime focus of the test was on pronunciation but was not given full details of the procedure. This was a deliberate policy on the part of the researcher to make the subject attend to his speech later

when he read the test items resulting in the use of a formal style. The test began with casual conversation. It should be noted here that the subject was not aware of the fact that the casual conversation at the beginning of the session was also part of the test and he was also not told that the conversation was being tape recorded. This was a deliberate policy to avoid the subject's being too conscious of his pronunciation so that he would be more likely to produce the desired casual style. The researcher did the best he could to make the session appear like a casual talk before proceeding to the test. During the conversation, the subject was asked to talk about his personal everyday experiences. This is to create an informal atmosphere and to make the subject feel relaxed so as to enable the researcher to elicit the more casual forms in the subject's speech.

Then the session proceeded with the reading of the word lists and the reading of dialogue materials. This time the subject was informed that his speech would be tape recorded so that he would make a conscious effort to produce variants as close to the TL as possible. The dialogue materials were adapted from Ann Baker's 'Ship or Sheep'. The were chosen to elicit the phonemes under investigation (see Appendix L for details of the test).

4.3 Data Analysis

The method of data analysis used in this study was computation of index scores based on single linear scale (details of the procedures are explained in 3.6). The variants produced by the subject are described as follows:

The Target Phoneme /θ/

Seven variants were found in the subject's speech performance. They are as follows:

[θ] voiceless dental flat fricative

[s̪] voiceless dental grooved fricative

[t̪ˢ] affricated voiceless dental stop

[t̪ʰ] aspirated voiceless dental stop

[t̪] voiceless dental stop

[tʰ] aspirated voiceless alveolar stop

[t] voiceless alveolar stop

The Target Phoneme /ð/

Seven variants were identified. The variants are:

[ð] voiced dental fricative

[θ] voiceless dental fricative

[d̪] voiced dental stop

[d] voiced alveolar stop

[d̥] devoiced alveolar stop

[t] voiceless alveolar stop

[ʔ] glottal stop

The Target Phoneme /r/

Four variants were used by the subject for the English /r/ :

[ɹ] voiced post-alveolar approximant

[ɹ̥] devoiced post-alveolar approximant

[ɾ] voiced alveolar tap

[ø] omission of sound

The Target Phoneme/l/

Three varieties of /l/ were identified in the subject's speech:

[l̪ʲ] palatalised voiced alveolar lateral approximant

[ɬ] velarised voiced alveolar lateral approximant

[l] voiced alveolar lateral approximant

The Target Phoneme /v/

Six variants occurred in the subject's speech:

[v] voiced labio-dental fricative

[ʏ̥] devoiced labio-dental fricative

[ʏ̞] labialised labio-dental fricative

[β] voiced bilabial fricative

[f] voiceless labio-dental fricative

[fː] long voiceless labio-dental fricative

The Target Phoneme /w/

Two variants of /w/ were found in the subject's speech:

[w] voiced labial-velar approximant

[ʍ] devoiced labial-velar approximant

Final stop consonants

The Target Phoneme /p/

Three variants were used by the subject. They are as follows:

[p] voiceless bilabial stop

[p˺] unreleased voiceless bilabial stop

[ʔ] glottal stop

The Target Phoneme /b/

Three variants were found in the recordings:

[b̥] devoiced bilabial stop

[b] voiced bilabial stop

[b˺] unreleased voiced bilabial stop

The Target Phoneme /k/

The variants which were identified in the subject's pronunciation were as follows:

[k] voiceless velar stop

[k˺] unreleased voiceless velar stop

[k̠] retracted voiceless velar stop

[ʔ] glottal stop

The Target Phoneme /g/

Five variants of /g/ were articulated by the subject:

[g̥] devoiced velar stop

[g] voiced velar stop

[g̥˺] unreleased devoiced velar stop

[g˺] unreleased voiced velar stop

[k˺] unreleased voiceless velar stop

The Target Phoneme /t/

Four variants were employed by the subject in his speech:

[t] voiceless alveolar stop

[t^h] aspirated voiceless alveolar stop

[t˺] unreleased voiceless alveolar stop

[ʔ] glottal stop

The Target Phoneme /d/

Seven variants occurred in the subject's speech. They are as follows:

[d̥] devoiced alveolar stop

[d] voiced alveolar stop

[d˺] unreleased voiced alveolar stop

[d̥˺] unreleased devoiced alveolar stop

[t˺] unreleased voiceless alveolar stop

[ʔ] glottal stop

[ø] omission of sound

The variants are ordered in relation to the target English sounds, ranging from the most advanced or accurate target variant to the most distant variant (e.g [ø]. An index value is then assigned to each variant and the index score is calculated using the procedures outlined in Section 3.6. A trained phonetician from the Department of Linguistic and Phonetics, University of Leeds was consulted in order to ensure accuracy of the transcription and the ordering of variants. The ordering of variants produced by the subject together with their index values are presented as follows:

The Target Phoneme /θ/

[t]	[t^{h}]	[t̪]	[t̪^{h}]	[t̪^{ɛ}]	[s̪]	[θ]
1	2	3	4	5	6	7

The Target Phoneme /ð/

[ʔ]	[t]	[d̥]	[d]	[d̥]	[θ]	[ð]
1	2	3	4	5	6	7

The Target Phoneme /r/

[ø]	[ɾ]	[ɻ̥]	[ɹ]
0	1	2	3

The Target Phoneme /l/

[l^{j}]	[ɬ]	[l]
1	2	3

The Target Phoneme /w/

[w]	[ʍ]
1	2

The Target Phoneme /v/

[fː]	[f]	[β]	[ʋ̥]	[v]	[ʏ̥]
1	2	3	4	5	6

The Final Stops

The Target Phoneme /p/

[ʔ]	[pˀ]	[p]
1	2	3

The Target Phoneme /b/

[bˀ]	[b]	[b̥]
1	2	3

The Target Phoneme /t/

[ø]	[ʔ]	[tˀ]	[tʰ]	[t]
1	2	3	4	5

The Target Phoneme /d/

[ø]	[ʔ]	[tˀ]	[dˀ]	[d̥ˀ]	[d]	[d̥]
0	1	2	3	4	5	6

The Target Phoneme /k/

[ʔ]	[k̲]	[kˀ]	[k]
1	2	3	4

The Target Phoneme /g/

[kˆ] [gˆ] [g̥ˆ] [g] [g̥]

1 2 3 4 5

4.4 Findings of the Study

Table 4.1 shows the index score of the subject's speech production for the three stylistic environments; word list reading, dialogue reading and casual conversation.

Table 4.1 Index Scores for Each Variant

Target Phoneme	w.l	d.r	f.c
/θ /	91.156	80.000	32.857
/ð /	85.714	80.184	62.448
/v/	92.063	83.333	53.888
/w/	100.000	91.666	81.428
/l/	91.176	89.473	86.666
/r/	85.714	78.431	68.817
/p/	75.000	*	58.333
/b/	66.666	33.333	*
/k/	82.142	50.000	47.058
/g/	77.000	60.000	60.000

/t/	60.000	51.666	46.951
/d/	60.000	28.571	41.666

Notations:

w.l = word list
d.r = dialogue reading
f.c = free conversation
* no available data/very low occurrences making it difficult for comparison.

To illustrate the findings, a line graph is used to show the patterning of all variants under investigation. The number at the left of the graph ranges from 0 to 100. These numbers represent an index score which is based on an assigned point value and the frequency of each variant. The horizontal line of the graph indicates the three stylistic environments viz. w/l, d/r and f/c representing the three verbal tasks, word list reading, dialogue reading, and free conversation. The line (slope) of the graph represents the index score of the three stylistic environments. The line graphs of styles of each variant under investigation are presented as follows:

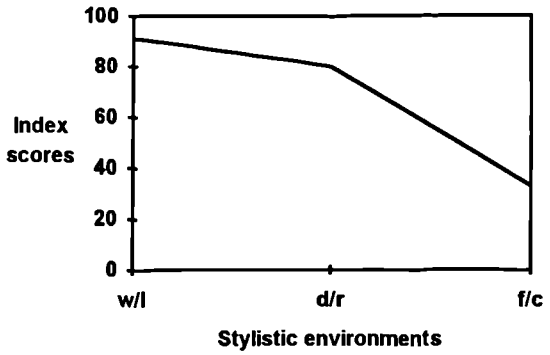


Fig. 4.1 Stylistic Stratification of Phoneme /θ/

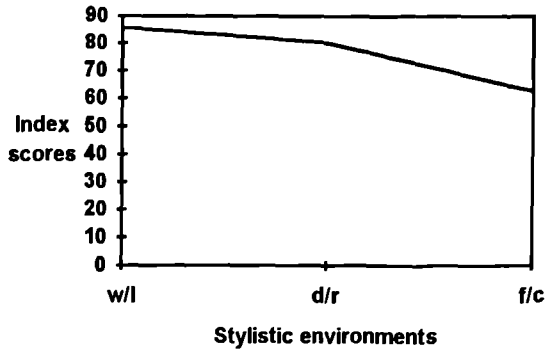


Fig. 4.2 Stylistic Stratification of Phoneme /ð/

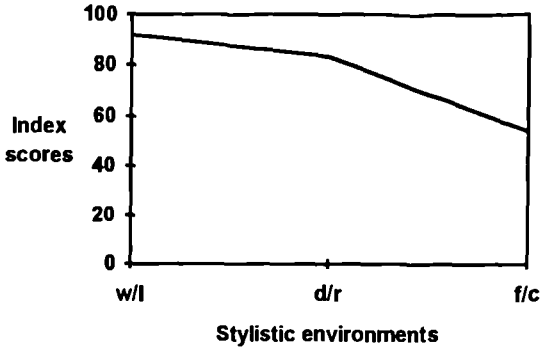


Fig. 4.3 Stylistic Stratification of Phoneme /v/

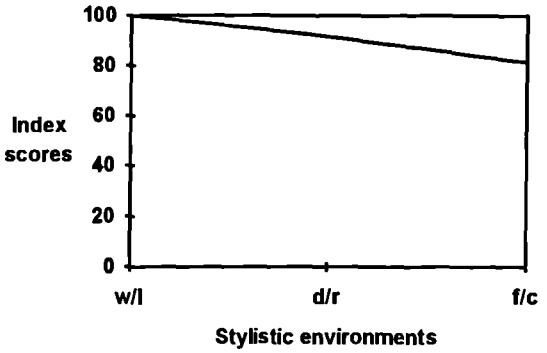


Fig. 4.4 Stylistic Stratification of Phoneme /w/

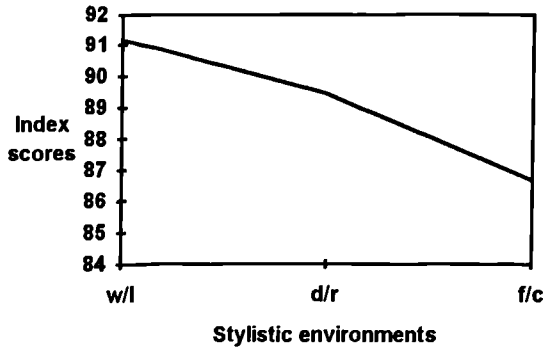


Fig. 4.5 Stylistic Stratification of Phoneme /l/

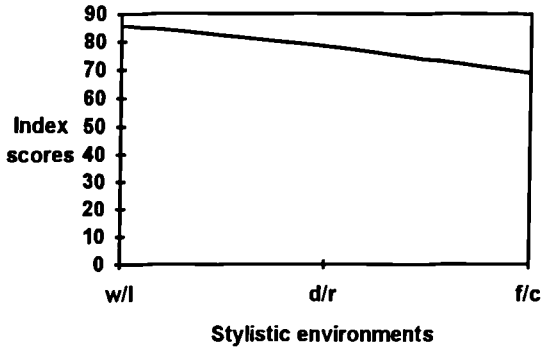


Fig. 4.6 Stylistic Stratification of Phoneme /r/

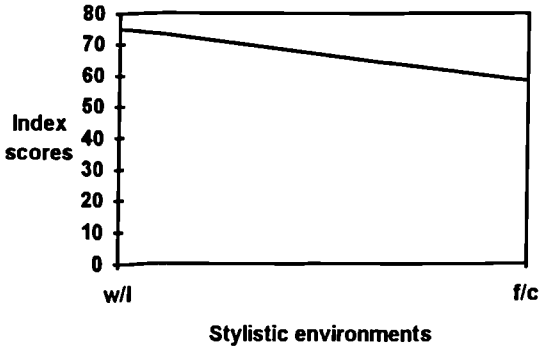


Fig. 4.7 Stylistic Stratification of Phoneme /p/

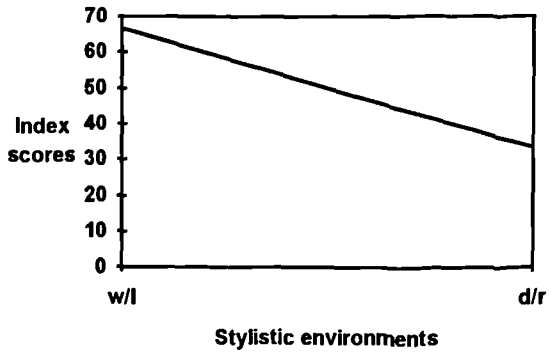


Fig. 4.8 Stylistic Stratification of Phoneme /b/

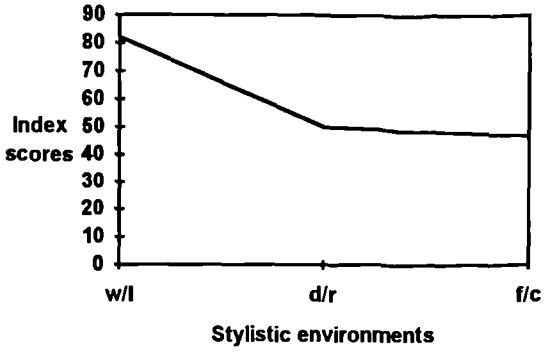


Fig. 4.9 Stylistic Stratification of Phoneme /k/

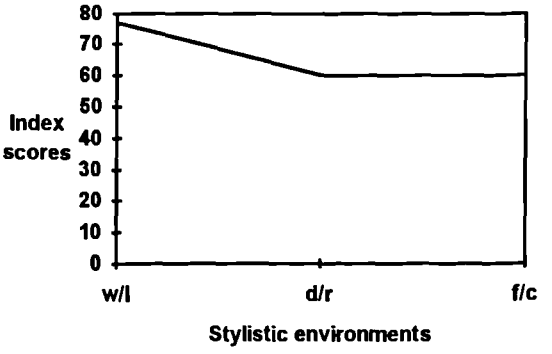


Fig. 4.10 Stylistic Stratification of Phoneme /g/

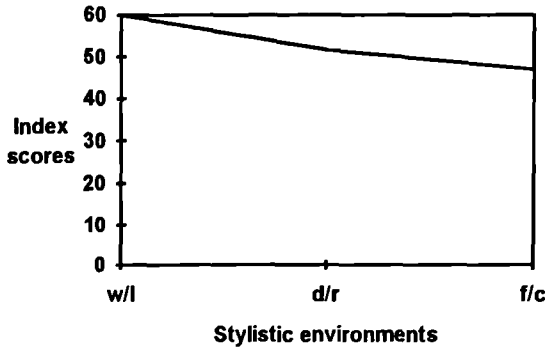


Fig. 4.11 Stylistic Stratification of Phoneme /t/

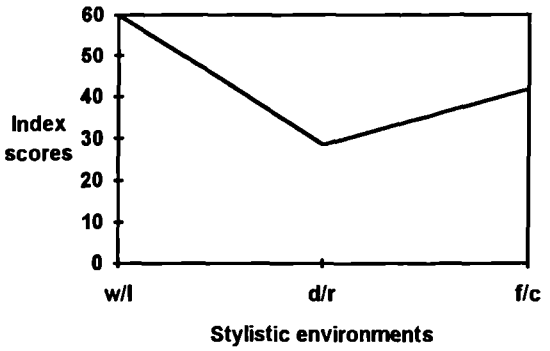


Fig. 4.12 Stylistic Stratification of Phoneme /d/

In general, analysis of the data indicated that there is variability in the subject's speech performance across the three different types of verbal tasks (i.e word list reading, dialogue reading and casual conversation) in most of the phonemes under investigation and that there is a regularity in the patterning of variants according to different stylistic environments. The overall findings demonstrate a high degree of systematic linguistic behaviour in the three different linguistic environments. In most cases, word list reading has the highest index score, and where available, this is followed by dialogue reading. Casual conversation has the lowest index score. The results of this study seem to support 'attention to speech' hypothesis and the findings of Labov and Dickerson's studies on stylistic stratification.

The only exception to this regularity in the patterning is with the final stops, particularly the target phonemes /g/ and /d/ though /g/ is very nearly regular. After careful analysis of the test materials and the recordings, it was found that not enough data of the target phonemes were elicited. This resulted in limited and inadequate data for comparison. For instance, /g/ occurs only once in both dialogue reading and casual conversation.

4.5 Conclusion

To sum up, the results indicate that the subject's speech performance is variable in nature and that the pattern of variability of the subject's IL phonology is systematic. This is supported by the findings which demonstrate a high degree of systematic linguistic behaviour across the three different stylistic environments (namely, word list reading, dialogue reading, and casual conversation). The results of this study supports 'attention to speech' hypothesis that if variability exists, the index score should be ordered according to the three styles; i.e the highest index score in word list reading, followed by dialogue reading and the lowest index score in casual conversation. Where irregular patterning of the variants occurs, it is mainly due to inadequate data as a result of the limitations of the elicitation tasks.

As far as test materials are concerned, the tasks should contain adequate data of the phonemes under study in order to produce a more reliable result. This study suffered from inadequate data on final stops in the dialogue reading resulting in irregular patterning of style shifting in the subject's speech performance. In view of the above limitation, the researcher felt that some adjustments should be made to the test materials themselves. The lists should be expanded to contain more words

which occur in various phonetic environments. It is also in the researcher's opinion that minimal pairs should be included as part of the test. Since minimal pairs are thought to cause the subject to attend closely to the production of an individual word resulting in the production of more target variants, it would be interesting to see whether the hypothesis is also true with the Malaysian subjects. Improvement should also be made to the dialogue material for final stops so that it would produce adequate data for comparison, thus yielding more reliable results.

The researcher also feels that it is inadequate to rely solely on the results which is based on the percentage of index scores (proportions of target-like variants) as employed in this study. Sato (1985) suggests that the significance of the variation in the subject's speech performance is inadequately estimated by the slope of a line in a style diagram. It should also be supported with a statistical test. Thus, in view of this a statistical test involving an Analysis of Variance (ANOVA) should be carried out on the data to establish whether the differences in the subject's speech performance is statistically significant. This test could be useful in supporting the results established by the percentage of index scores.

Chapter 5

Results of the Main Investigation

This chapter presents the results of the subjects speech performance across the four verbal tasks namely; minimal pairs (m.p), word list reading (w.l), dialogue reading (d.r) and free conversation (f.c). For details of the subjects see Chapter 3. This is followed by the discussion of results which is presented in the next chapter. However before we proceed to the details of the results, it is worth mentioning the process of identification and ordering of variants.

5.1 Identification of Variants

The identification of variants was only made possible after detailed phonetic transcriptions of the subjects' speech performance were carried out. A trained phonetician from the Department of Linguistics and Phonetics, University of Leeds was consulted in order to ensure accuracy of the transcription and the ordering of variants. Each variant of the target phonemes produced by the subjects together with its frequency of occurrence was recorded by the researcher on separate data sheets so as to facilitate the process of identification and ordering of variants. The variants of each of the target phonemes produced by the subjects are presented as

follows, that is with the most distant sound from the target language (TL) phoneme first to the one nearest (or accurate) to the TL sound last:

The Target Phoneme /θ/

The target phoneme /θ/ seems to be very variable. Seventeen variants were identified in the subjects' speech performance. They are as follows:

[ø] omission of sound

[ʔ] glottal stop

[s] voiceless alveolar fricative

[s̪] voiceless dental grooved fricative with strong dental articulation

[t̠] voiceless retroflex stop

[t˺] unreleased voiceless alveolar stop

[ʔt] voiceless alveolar stop preceded by a glottal stop

[t] voiceless alveolar stop

[t̪] voiceless dental stop

[t^h] aspirated voiceless alveolar stop

[θt] voiceless dental fricative succeeded by voiceless stop

[tθ] voiceless dental fricative preceded by voiceless stop

[t̪θ] voiceless dental fricative preceded by voiceless dental stop

[f] voiceless labio-dental fricative

[ð] voiced dental fricative

[ð̥] devoiced dental fricative

[θ] voiceless dental fricative

The Target Phoneme /ð/

For the target phoneme /ð/, the subjects' speech production is also marked by a wide range of variability. Twenty variants were found in the subjects' speech performance. They are as follows:

[ʔ] glottal stop

[ɹ] voiced alveolar approximant

[s] voiceless alveolar fricative

[s̪] voiceless dental fricative

[z̪] voiced dental fricative

[ɖ] voiced retroflex alveolar stop

[t̚] unreleased voiceless alveolar stop

[ʔt] voiceless alveolar stop preceded by a glottal stop

[t] voiceless alveolar stop

[d̚] unreleased voiced alveolar stop

[d̪̚] unreleased voiced dental stop

[d] voiced alveolar stop

[d̪] voiced dental stop

[f] voiceless labio-dental fricative

[tθ] voiceless dental fricative preceded by voiceless alveolar stop

[θ] voiceless dental fricative

[d̪ð] voiced dental fricative preceded by voiced dental stop

[ð] voiced dental fricative

[ð̥] devoiced dental fricative

The Target Phoneme /v/

Seven variants of the target phoneme /v/ were used by the subjects:

[ø] omission of sound

[ʔ] glottal stop

[b] voiced bilabial stop

[ʋ] voiced labio-dental approximant

[f] voiceless labio-dental fricative

[v] voiced labio-dental fricative

[ɣ̥] devoiced labio-dental fricative

The Target Phoneme /r/

As far as the target phoneme /r/ is concerned, eight variants were employed by the subjects:

[ø] omission of sound

[w] labial-velar approximant

[r] voiced alveolar trill

[ɾ] voiced alveolar tap

[ɹ̥] devoiced alveolar fricative

[ɹ̝] voiced alveolar fricative

[ɻ] retroflex approximant

[ɹ] voiced post-alveolar approximant

The Final Stops

The Target Phoneme /p/

Ten variants were found in the recordings of the subjects' speech:

[ø] omission of sound

[ʔ] glottal stop

[t^h] aspirated voiceless alveolar stop

[pt] voiceless bilabial stop succeeded by voiceless alveolar stop

[p̚] unreleased devoiced bilabial stop

[p̥] devoiced bilabial stop

[pˀ] unreleased voiceless bilabial stop

[p^h] aspirated voiceless bilabial stop

[p̲] very weak voiceless bilabial stop

[p] voiceless bilabial stop

The Target Phoneme /b/

Eleven variants were articulated by the subjects.

[bt] voiced bilabial stop succeeded by voiceless bilabial stop

[pˀ] unreleased voiceless alveolar stop

[p̲] very weak voiceless bilabial stop

[p^h] aspirated voiceless bilabial stop

[p] voiceless bilabial stop

[bˀ] unreleased voiced bilabial stop

[p̚] unreleased devoiced bilabial stop

[bə] voiced bilabial stop succeeded by a schwa

[b̥ə] devoiced bilabial stop succeeded by a schwa

[b] voiced bilabial stop

[b̥] devoiced bilabial stop

The Target Phoneme /t/

Sixteen variants occurred in the subjects' speech. The range used was:

[ø] omission of sound

[ks] voiceless velar stop succeeded by voiceless alveolar grooved fricative

[t̚] unreleased voiceless retroflex stop

[t^{h}] aspirated voiceless retroflex stop

[ʈ] voiceless retroflex stop

[t̪̚] unreleased voiceless dental stop

[t^{h}] aspirated voiceless dental stop

[t̪] voiceless dental stop

[t^{j}] palatalised voiceless alveolar stop

[t̚] unreleased voiceless alveolar stop

[ɾ] voiced alveolar tap

[ɹ] voiced post-alveolar approximant

[ʔ] glottal stop

[t^{h}] aspirated voiceless alveolar stop

[t̬] very weak voiceless alveolar stop

[t] voiceless alveolar stop

The Target Phoneme /ɖ/

Twenty variants were identified in the subjects' speech performance. the range of the variants is as follows:

[ø] omission of sound

[ʔ] glottal stop

[k] voiceless velar stop

[tʃ] voiceless post-alveolar affricate

[ɖ̚] unreleased voiced retroflex stop

[ɖ] voiced retroflex stop

[ɖ̥] devoiced retroflex stop

[t̪] very weak voiceless alveolar stop

[t^h] aspirated voiceless alveolar stop

[t] voiceless alveolar stop

[d̪̚] unreleased voiced dental stop

[d̪ə] voiced dental stop succeeded by a schwa

[d̪] voiced dental stop

[$d̪^j$] palatalised voiced dental stop

[d̚] unreleased voiced alveolar stop

[d̥̚] unreleased devoiced alveolar stop

[də] voiced alveolar stop succeeded by a schwa

[d̥ə] devoiced alveolar stop succeeded by a schwa

[d] voiced alveolar stop

[d̥] devoiced alveolar stop

The Target Phoneme /k/

Nine variants were identified in the subjects' speech. They are as follows:

[ø] omission of sound

[ʔ] glottal stop

[kt] voiceless velar stop succeeded by voiceless alveolar stop

[g] voiced velar stop

[g̥] devoiced velar stop

[k˺] unreleased voiceless velar stop

[k̟] very weak voiceless velar stop

[kʰ] aspirated voiceless velar stop

[k] voiceless velar stop

The Target Phoneme /g/

Fifteen variants were employed by the subject for the target phoneme [g]. They are as follows:

[ʔ] glottal stop

[p] voiceless bilabial stop

[tʰ] aspirated voiceless alveolar stop

[t] voiceless alveolar stop

[d̥] devoiced alveolar stop

[k˺] unreleased voiceless velar stop

[k̟] very weak voiceless velar stop

[kʰ] aspirated voiceless velar stop

[k] voiceless velar stop

[ɡ̚] unreleased voiced velar stop

[g̥̚] unreleased devoiced velar stop

[gə] voiced velar stop succeeded by a schwa

[g̥ə] devoiced velar stop succeeded by a schwa

[ɡ] voiced velar stop

[g̥] devoiced velar stop

5.2 Ordering of Variants

As mentioned in the previous section the variants are ordered in relation to the target English sounds, ranging from the most advanced or accurate target variant to the most distant variant(e.g [ø]. The index value is then assigned to each variant. The ordering of variants together with their index values is presented as follows:

The Target Phoneme /θ/

[ø]	[ʔ]	[s]	[s̪]	[t̪]	[t̚]	[ʔt]	[t]	[t̪]	[tʰ]	[θt]	[tθ]	[t̪θ]	[f]	[ð]	[ð̞]	[θ]
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

The Target Phoneme /ð/

[ø]	[ʔ]	[ɹ]	[s]	[s̪]	[z̪]	[d̪]	[t̬]	[ʔt]	[t]	[d̬]	[d̪̬]	[d]	[d̪]	[f]	[tθ]	[θ]
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

[d̪ð]	[ð]	[ð̞]
17	18	19

The Target Phoneme /v/

[ø]	[ʔ]	[b]	[ʊ]	[f]	[v]	[ɣ]
0	1	2	3	4	5	6

The Target Phoneme /ɾ/

[ø]	[w]	[r]	[ɾ]	[ɹ̥]	[ɹ̝]	[ɹ̞]	[ɹ]
0	1	2	3	4	5	6	7

<u>The Final Stops</u>

The Target Phoneme /p/

[ø]	[ʔ]	[tʰ]	[pt]	[p̚]	[p̚]	[p̬]	[pʰ]	[p̪]	[p]
0	1	2	3	4	5	6	7	8	9

The Target Phoneme /b/

[bt]	[p̬]	[p̪]	[pʰ]	[p]	[b̬]	[b̥̬]	[bə]	[b̥ə]	[b]	[b̥]
1	2	3	4	5	6	7	8	9	10	11

The Target Phoneme /t/

[ø]	[ks]	[t̪ˀ]	[t̪ʰ]	[t̪]	[t̪ˀ]	[t̪ʰ]	[t̪]	[tʲ]	[tˀ]	[ɾ]	[ɹ]	[ʔ]	[tʰ]	[t̪]	[t]
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

The Target Phoneme /d/

[ø]	[ʔ]	[k]	[tʃ]	[d̪ˀ]	[d̪]	[d̪]	[t̪]	[tʰ]	[t]	[d̪ˀ]	[d̪ə]	[d̪]	[d̪ʲ]	[dˀ]	[d̪ˀ]
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

[də]	[d̪ə]	[d]	[d̪]
16	17	18	19

The Target Phoneme /k/

[ø]	[ʔ]	[kt]	[g]	[g̪]	[kˀ]	[k̪]	[kʰ]	[k]
0	1	2	3	4	5	6	7	8

The target Phoneme /g/

[ʔ]	[p]	[tʰ]	[t]	[d̪]	[kˀ]	[k̪]	[kʰ]	[k]	[gˀ]	[g̪ˀ]	[gə]	[g̪ə]	[g]	[g̪]
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

5.3 Index Scores

Once the index value is assigned to each variant produced by the subjects, the index score is then calculated using the formula outlined in section 3.6. The index score is used in this study as a way of comparing stylistic differences across the four verbal tasks ranging from minimal pairs, word list reading, dialogue reading and free conversation.

Tables 5.1- 5.10 below shows the index scores for the four different stylistic environments.

Table 5.1 Index Scores for the Target Phoneme /θ/

/θ/	m.p	w.l	d.r	f.c
S1	100.00	96.25	91.80	71.88
S2	100.00	100.00	91.46	55.63
S3	100.00	88.75	74.79	68.30
S4	100.00	100.00	100.00	80.36
S5	100.00	97.19	91.88	68.90
S6	100.00	97.19	96.25	68.75
S7	100.00	99.38	94.38	57.34
S8	100.00	99.38	81.04	43.75
S9	100.00	99.38	95.42	80.31
S10	100.00	99.69	91.25	88.32
S11	91.88	92.81	71.25	54.86
S12	100.00	95.00	75.21	63.19
S13	100.00	99.38	97.08	67.61
S14	95.00	86.88	85.63	53.53
S15	100.00	94.38	85.83	49.18
S16	100.00	93.24	72.08	47.45
S17	100.00	97.19	96.25	52.87
S18	100.00	95.63	94.38	58.93
S19	100.00	96.56	83.33	52.19
S20	100.00	95.94	70.12	60.50
S21	81.25	73.75	51.08	41.67
S22	100.00	97.81	83.13	56.25
S23	100.00	88.75	75.42	57.81

S24	91.25	86.56	70.21	43.75
S25	100.00	100.00	72.92	46.31
S26	100.00	79.21	71.67	44.79
S27	100.00	95.63	83.75	51.42
S28	86.25	70.31	54.79	44.21
S29	100.00	90.31	71.46	39.12
S30	90.63	91.56	75.63	50.92

Table 5.2 Index Scores for the Target Phoneme /ð/

/ð/	m.p	w.l	d.r	f.c
S1	97.89	97.63	85.76	71.88
S2	99.47	97.37	74.61	66.21
S3	92.11	85.00	75.08	65.87
S4	100.00	98.16	94.58	57.93
S5	90.53	89.21	82.04	66.45
S6	98.42	93.68	80.80	69.99
S7	95.26	88.95	89.63	66.51
S8	96.84	90.26	80.50	63.65
S9	93.68	93.16	90.87	64.34
S10	98.42	95.79	96.28	73.28
S11	98.95	96.32	76.32	63.99
S12	94.21	87.63	78.48	65.10
S13	97.37	95.79	85.29	64.95
S14	97.89	95.00	71.52	64.61

S15	97.37	95.26	82.82	63.70
S16	93.16	90.00	73.37	63.34
S17	96.84	88.68	82.35	62.99
S18	96.32	96.32	93.50	65.03
S19	97.90	96.05	88.39	65.64
S20	92.11	91.32	87.31	67.41
S21	93.68	90.00	75.08	62.31
S22	100.00	97.11	63.16	61.22
S23	98.95	92.63	82.35	63.92
S24	88.42	87.37	76.32	63.04
S25	100.00	96.84	90.09	64.74
S26	95.24	93.68	74.46	64.34
S27	94.74	93.95	86.22	64.57
S28	90.53	86.32	75.70	65.50
S29	92.11	92.11	82.82	60.67
S30	94.21	85.79	63.16	63.59

Table 5.3 Index Scores for the Target Phoneme /v/

/v/	m.p	w.l	d.r	f.c
S1	100.00	81.43	78.57	56.35
S2	100.00	97.14	83.93	71.01
S3	90.00	88.57	82.14	64.39
S4	100.00	92.86	91.07	64.66
S5	100.00	97.14	92.86	71.25
S6	100.00	94.29	83.93	70.91
S7	100.00	81.43	85.71	80.65
S8	100.00	97.14	89.29	66.50
S9	100.00	80.00	85.71	74.24
S10	100.00	97.14	91.07	75.79
S11	100.00	84.29	75.00	63.22
S12	92.86	95.71	73.21	62.21
S13	100.00	91.43	85.71	54.01
S14	100.00	82.86	91.07	58.91
S15	100.00	84.29	91.07	65.62
S16	100.00	98.57	71.43	68.87
S17	100.00	88.57	96.43	66.62
S18	100.00	90.00	85.71	74.06
S19	100.00	92.86	82.14	74.37
S20	97.14	91.43	96.43	77.33
S21	98.57	80.00	83.93	59.12
S22	100.00	100.00	85.71	60.60
S23	100.00	100.00	82.14	60.59

S24	100.00	100.00	88.99	83.23
S25	100.00	100.00	85.71	55.63
S26	77.14	85.71	73.21	57.55
S27	82.86	80.00	76.79	57.58
S28	100.00	95.71	94.64	60.40
S29	64.29	61.43	57.14	34.57
S30	100.00	85.71	71.43	31.13

Table 5.4 Index Scores for the Target Phoneme /r/

/r/	m.p	w.l	d.r	f.c
S1	100.00	91.43	78.57	56.35
S2	90.00	100.00	97.02	87.58
S3	97.14	91.43	61.11	48.15
S4	100.00	92.38	92.56	90.07
S5	97.14	100.00	89.58	90.18
S6	100.00	91.43	93.15	92.44
S7	100.00	98.10	88.10	85.16
S8	94.29	96.19	89.29	66.50
S9	100.00	97.14	84.82	95.87
S10	100.00	94.28	88.99	93.07
S11	100.00	96.19	85.42	94.71
S12	100.00	100.00	86.31	75.00
S13	64.29	68.57	94.35	93.96
S14	100.00	100.00	86.31	88.25

S15	90.00	98.10	95.83	94.64
S16	85.71	87.61	92.56	90.79
S17	65.71	98.10	92.26	89.26
S18	64.29	93.33	90.77	88.90
S19	100.00	88.57	89.58	90.48
S20	57.14	95.24	96.73	92.74
S21	64.29	90.48	88.99	73.16
S22	85.71	100.00	99.40	92.27
S23	82.86	100.00	97.92	77.21
S24	100.00	100.00	88.99	83.23
S25	100.00	95.24	99.40	90.07
S26	71.43	99.05	94.05	80.27
S27	100.00	100.00	100.00	83.08
S28	100.00	100.00	94.35	85.71
S29	100.00	100.00	97.32	93.02
S30	97.14	100.00	93.75	89.68

Table 5.5 Index Scores for the Target Phoneme /p/

/p/	m.p	w.l	d.r	f.c
S1	95.56	85.93	54.44	66.67
S2	77.78	75.56	65.56	69.44
S3	97.78	76.30	61.11	48.15
S4	88.99	82.22	65.56	66.67
S5	83.33	80.74	66.67	66.67
S6	90.00	77.04	57.78	85.71
S7	82.22	77.78	65.56	66.67
S8	87.78	80.00	61.11	66.67
S9	93.33	86.67	63.33	66.67
S10	100.00	81.48	62.22	66.67
S11	75.56	77.04	63.33	66.67
S12	91.11	79.26	74.44	66.67
S13	88.89	88.15	72.22	66.07
S14	70.00	69.63	57.78	57.41
S15	77.78	77.78	71.11	63.16
S16	77.78	77.78	63.33	58.73
S17	80.00	77.78	67.78	66.67
S18	81.11	77.78	63.33	84.24
S19	76.67	74.81	46.67	85.71
S20	86.67	88.89	71.11	71.60
S21	77.78	77.78	67.78	66.67
S22	81.11	77.78	73.33	66.67
S23	84.44	77.78	64.44	66.66

S24	84.44	87.27	56.67	85.71
S25	86.67	85.93	64.44	63.58
S26	88.89	76.30	65.56	17.95
S27	77.78	77.04	66.67	85.71
S28	97.78	89.63	65.56	85.71
S29	77.78	77.78	64.44	85.71
S30	77.78	77.78	53.33	53.73

Table 5.6 Index Scores for the Target Phoneme /b/

/b/	m.p	w.l	d.r	f.c
S1	91.82	92.73	65.91	9.09
S2	95.45	93.94	82.95	54.44
S3	88.18	87.88	68.18	D.N.A
S4	98.18	94.55	88.64	54.55
S5	100.00	96.97	77.27	54.55
S6	100.00	93.94	70.45	54.55
S7	97.27	87.27	82.95	54.55
S8	98.18	85.45	60.23	D.N.A
S9	95.45	83.03	65.91	54.55
S10	100.00	99.39	68.18	65.91
S11	92.73	73.33	66.23	D.N.A
S12	50.91	49.70	30.82	54.55
S13	78.19	70.91	59.09	54.55
S14	87.27	54.55	52.27	D.N.A
S15	98.18	74.03	61.36	54.55

S16	78.18	78.18	63.64	D.N.A
S17	100.00	96.36	81.82	54.55
S18	72.73	83.03	77.27	63.64
S19	69.09	63.64	30.68	54.55
S20	92.73	89.70	72.05	D.N.A
S21	85.45	82.42	71.59	58.18
S22	97.27	92.73	77.27	45.45
S23	100.00	93.94	76.14	54.55
S24	100.00	87.27	64.77	57.55
S25	98.18	80.61	54.44	54.44
S26	88.18	83.64	76.14	63.64
S27	100.00	87.67	62.50	D.N.A
S28	100.00	100.00	93.18	D.N.A
S29	98.18	95.76	80.00	D.N.A
S30	93.36	84.85	63.64	63.63

Table 5.7 Index Scores for the Target Phoneme /t/

/t/	m.p	w.l	d.r	f.c
S1	89.33	87.62	62.96	49.46
S2	100.00	100.00	72.10	51.72
S3	89.33	80.95	50.37	54.39
S4	92.00	80.48	58.02	45.50
S5	86.67	84.76	54.57	51.01
S6	94.66	82.38	63.70	48.04
S7	98.67	70.00	72.59	38.44
S8	98.67	88.57	57.78	48.30
S9	100.00	100.00	67.65	54.94
S10	67.33	60.00	53.09	50.98
S11	89.33	88.10	63.21	47.96
S12	97.33	94.24	62.96	47.33
S13	98.67	95.24	60.25	49.96
S14	75.33	54.29	53.58	48.43
S15	96.00	83.33	58.52	56.30
S16	68.00	64.76	50.62	50.46
S17	92.00	87.14	73.58	50.00
S18	90.67	80.95	62.72	44.20
S19	96.00	78.10	56.54	48.28
S20	88.00	87.62	72.84	52.92
S21	88.00	87.62	64.20	51.35
S22	93.33	89.05	67.17	56.47
S23	86.67	86.67	62.22	51.17

S24	92.00	90.45	66.42	57.48
S25	100.00	82.38	55.06	53.63
S26	100.00	80.48	52.84	44.13
S27	97.33	86.67	62.96	47.65
S28	100.00	75.24	59.26	51.67
S29	89.33	80.96	61.23	48.16
S30	90.66	85.71	57.28	50.31

Table 5.8 Index Scores for the Target Phoneme /d/

/d/	m.p	w.l	d.r	f.c
S1	97.89	94.74	55.26	18.25
S2	98.95	98.80	39.47	30.99
S3	98.94	98.60	35.53	18.97
S4	97.37	94.39	39.47	18.83
S5	98.47	97.19	33.16	33.14
S6	97.89	95.09	36.84	30.50
S7	98.95	94.39	53.16	16.49
S8	97.89	97.54	41.32	14.29
S9	99.47	95.44	38.16	12.69
S10	99.47	98.25	42.47	26.85
S11	100.00	92.28	32.26	11.98
S12	78.95	71.93	31.58	13.16
S13	97.37	98.25	43.95	18.32
S14	90.00	89.47	46.32	27.15

S15	97.89	96.84	41.84	19.99
S16	87.37	72.98	31.58	11.71
S17	100.00	99.30	41.05	13.24
S18	84.21	90.18	33.42	33.24
S19	98.42	72.98	35.00	30.56
S20	100.00	98.60	52.37	41.20
S21	96.32	91.93	40.79	31.97
S22	89.47	66.67	40.53	28.84
S23	93.15	90.53	40.79	15.28
S24	86.32	74.74	41.32	21.66
S25	99.47	97.89	37.89	14.38
S26	93.16	90.18	47.89	53.45
S27	100.00	100.00	40.43	27.93
S28	99.47	90.88	51.84	21.34
S29	100.00	99.65	53.16	29.66
S30	99.47	99.29	33.68	25.40

Table 5.9 Index Scores for the Target Phoneme /k/

/k/	m.p	w.l	d.r	f.c
S1	92.50	87.50	58.65	19.08
S2	96.25	92.50	66.35	24.57
S3	87.50	86.67	63.46	19.51
S4	87.50	83.33	64.42	41.10
S5	90.00	88.33	64.42	29.83
S6	92.50	88.33	68.27	17.41
S7	87.50	87.50	61.90	27.08
S8	95.00	92.50	61.54	12.50
S9	96.25	90.23	69.23	18.36
S10	95.00	87.50	58.65	32.29
S11	90.00	88.33	63.46	34.95
S12	100.00	100.00	80.77	46.28
S13	91.25	90.00	75.96	32.14
S14	87.50	79.17	71.15	20.64
S15	92.50	88.33	70.19	19.53
S16	85.00	90.83	65.38	30.04
S17	87.50	87.50	81.73	25.95
S18	88.75	82.50	62.50	31.91
S19	85.00	85.00	62.50	27.92
S20	90.00	91.66	75.96	15.18
S21	96.25	87.50	70.19	30.41
S22	88.75	87.50	75.00	44.92
S23	88.75	88.33	78.85	62.29

S24	100.00	89.17	62.50	22.45
S25	97.50	91.67	70.19	20.74
S26	85.00	85.83	67.31	40.99
S27	90.00	87.50	67.31	42.42
S28	97.50	95.83	73.08	42.71
S29	92.50	87.50	74.04	55.11
S30	88.75	87.50	49.07	22.07

Table 5.10 Index Scores for the Target Phoneme /g/

/g/	m.p	w.l	d.r	f.c
S1	98.67	96.00	72.73	6.67
S2	98.00	95.11	93.94	18.67
S3	98.67	95.56	88.48	18.67
S4	100.00	98.67	90.91	D.N.A
S5	98.00	96.89	84.85	66.67
S6	98.67	98.67	68.27	17.41
S7	91.33	88.89	71.52	15.38
S8	97.33	97.33	78.79	21.11
S9	89.33	78.67	46.66	13.33
S10	96.67	96.89	78.18	57.14
S11	81.33	62.67	50.30	29.33
S12	60.00	56.89	52.73	36.67
S13	100.00	94.67	81.21	18.67
S14	93.33	80.99	71.52	36.67

S15	97.33	83.56	66.67	36.67
S16	88.67	88.00	67.27	13.33
S17	100.00	98.22	87.88	33.33
S18	80.00	80.00	69.09	55.50
S19	73.33	73.33	65.45	66.67
S20	92.00	98.22	81.81	D.N.A
S21	92.00	92.00	81.12	43.64
S22	95.33	93.33	83.03	77.78
S23	96.67	100.00	64.85	66.67
S24	100.00	100.00	77.58	63.81
S25	96.67	98.22	80.00	46.67
S26	90.00	88.89	86.06	66.67
S27	100.00	98.22	86.10	D.N.A
S28	100.00	100.00	89.70	92.00
S29	96.67	96.44	86.06	D.N.A
S30	100.00	100.00	70.30	D.N.A

Notations:

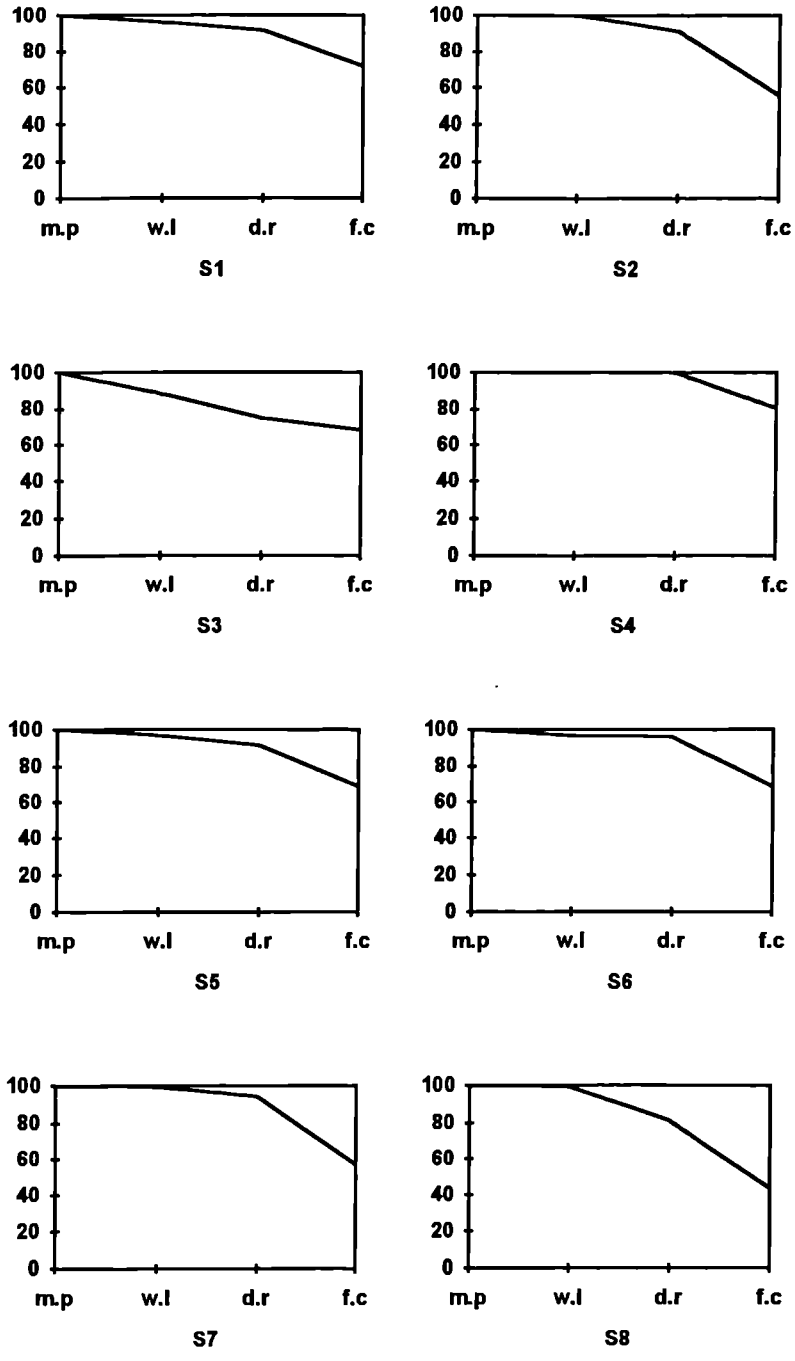
m.p - minimal pairs
w.l - word list
d.r - dialogue reading
f.c - free conversation
D.N.A - data not available

5.4 Stylistic Patterning of Variants

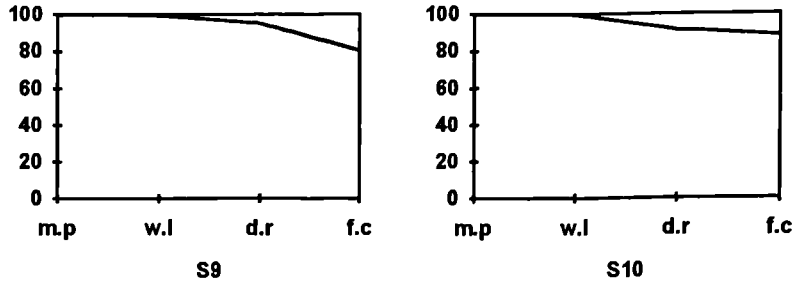
To illustrate the findings, line graphs are used to show the patterning of all variants under investigation. The number at the left of the graph ranges from 0 to 100. These numbers represent an index score which is based on an assigned point value and the frequency of each variant. The horizontal line of the graph indicates the four stylistic environments viz. m.p, w.l, d.r and f.c respectively representing the four verbal tasks namely; minimal pairs, word list reading, dialogue reading and free conversation. The sloping line on the graph represents the index score of the four different stylistic environments.

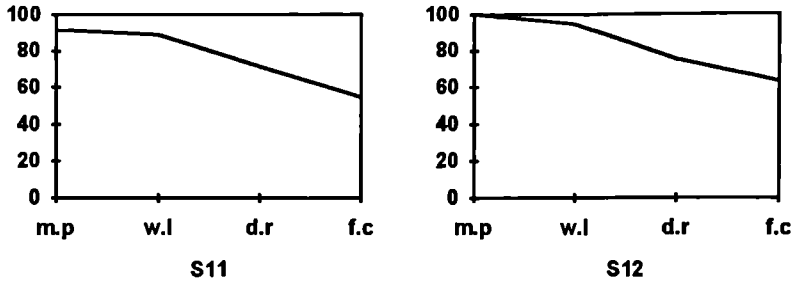
The line graphs of styles of each phoneme under investigation are presented below:

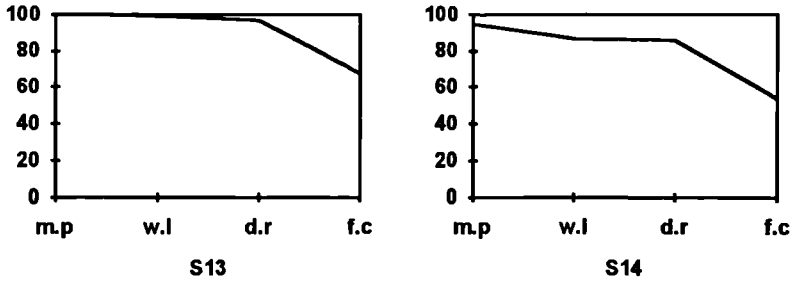
Fig 5.1 Stylistic Patterning of Phoneme /θ/

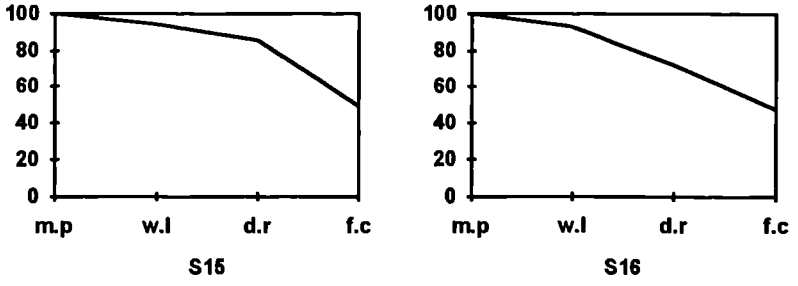


Stylistic Patterning of Phoneme /θ/ (cont.)

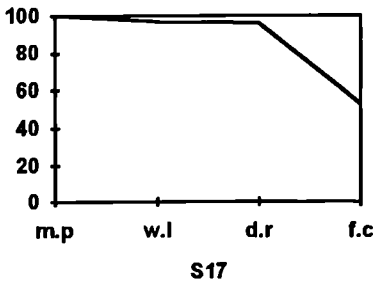


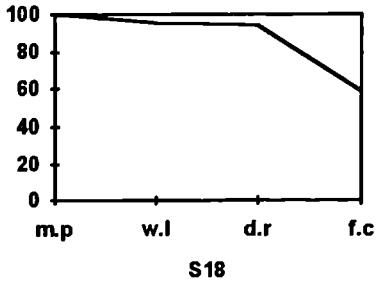


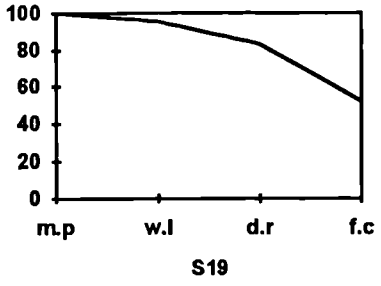


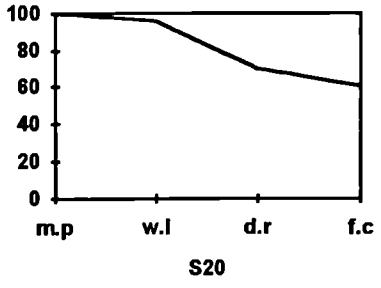


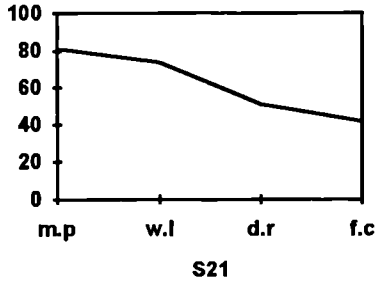
Stylistic Patterning of Phoneme /θ/ (cont.)

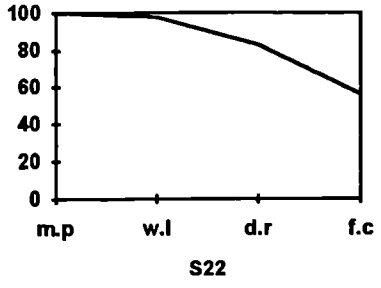


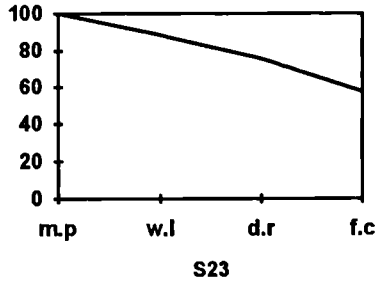


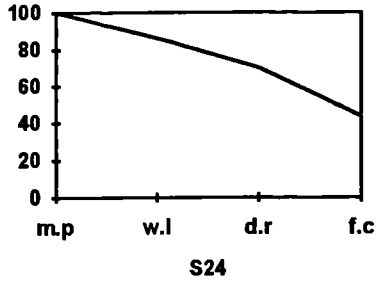




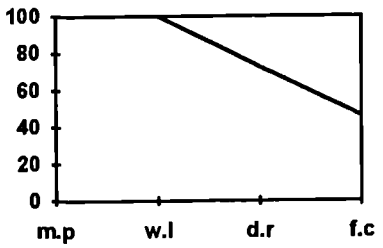




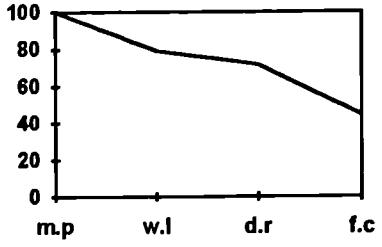




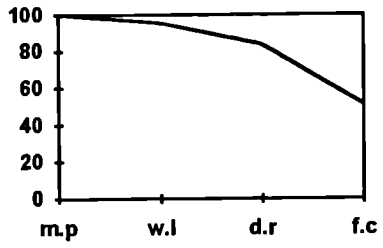
Stylistic Patterning of Phoneme /θ/ (cont.)



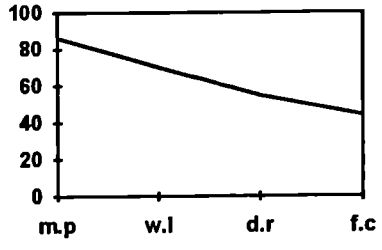
S25



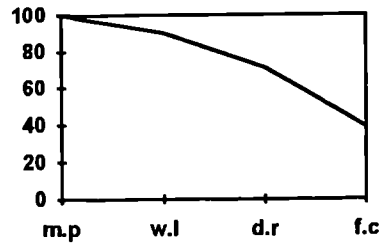
S26



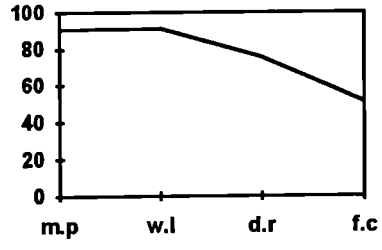
S27



S28

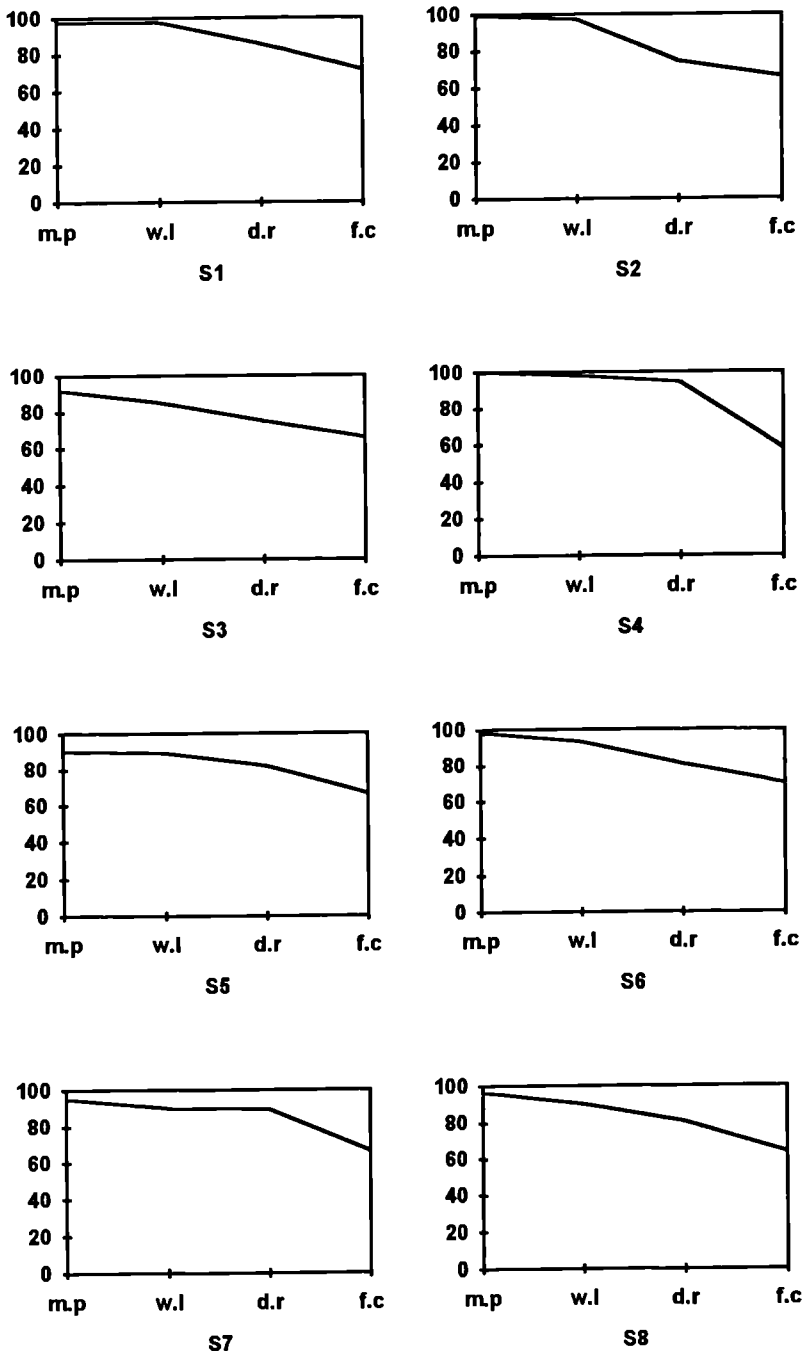


S29

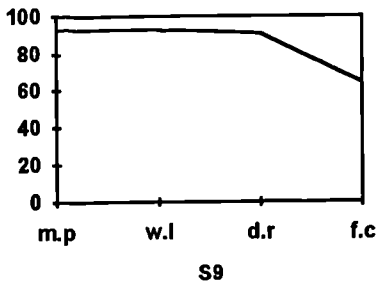


S30

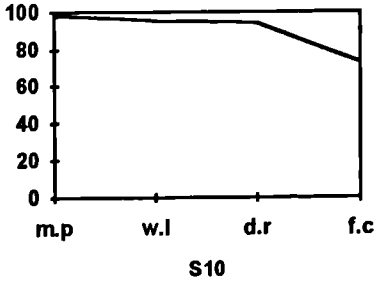
Fig 5.2 Stylistic Patterning of Phoneme /ð/



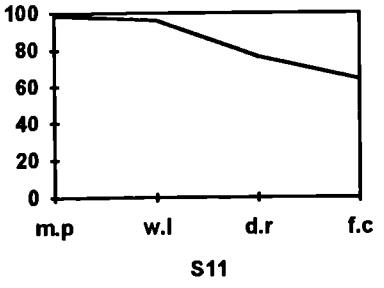
Stylistic Patterning of Phoneme /ð/ (cont.)



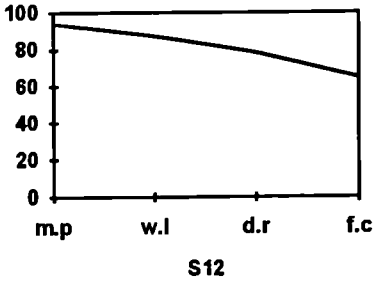
S9



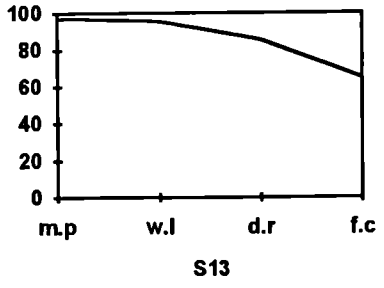
S10



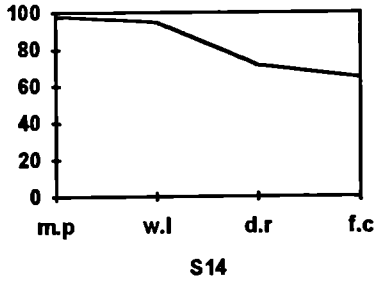
S11



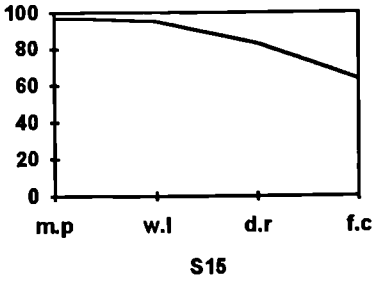
S12



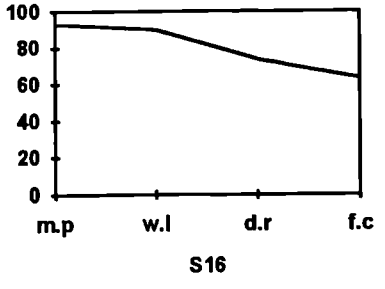
S13



S14

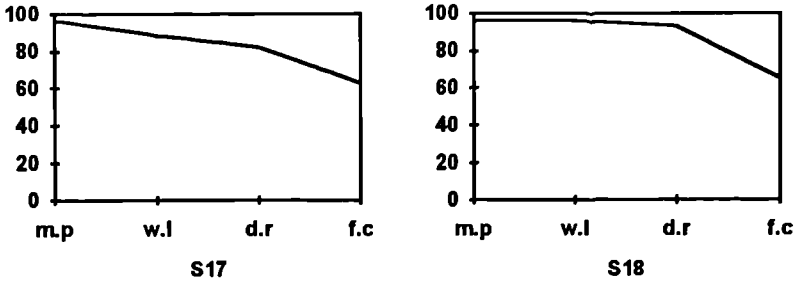


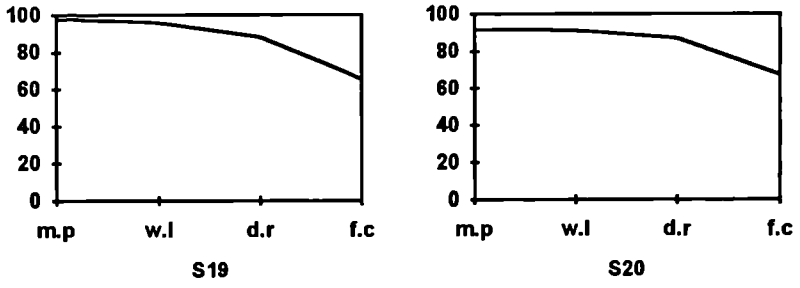
S15

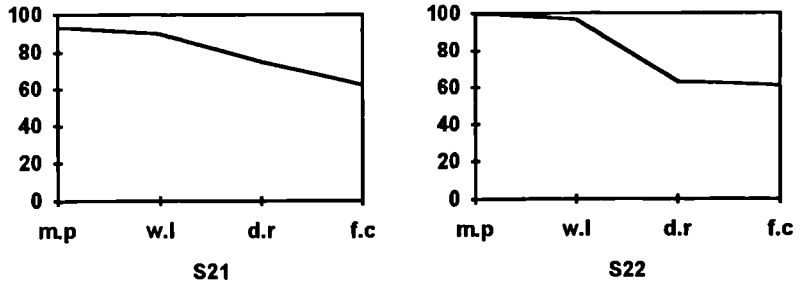


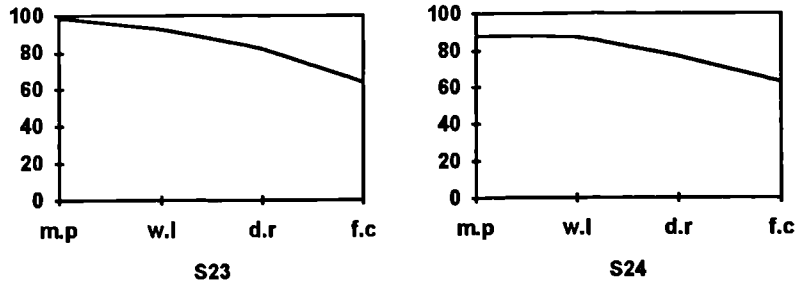
S16

Stylistic Patterning of Phoneme /ð/ (cont.)

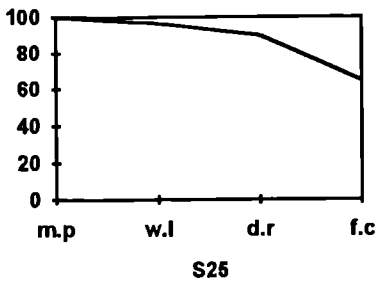


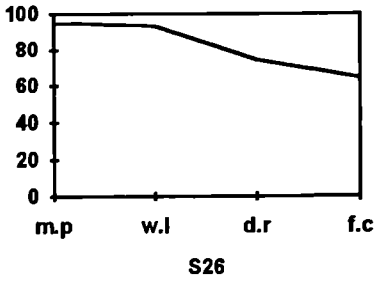


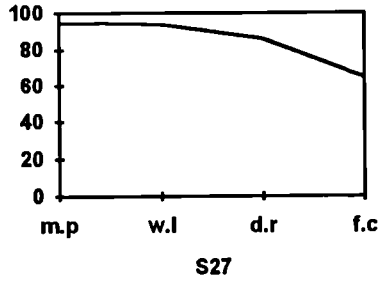


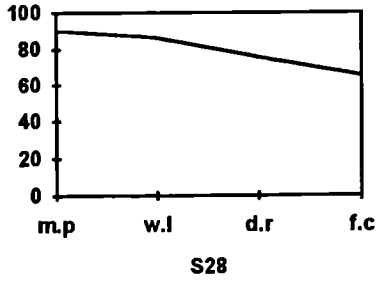


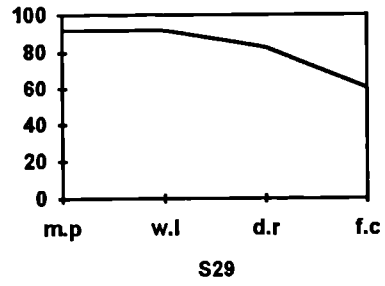
Stylistic Patterning of Phoneme /ð/ (cont.)











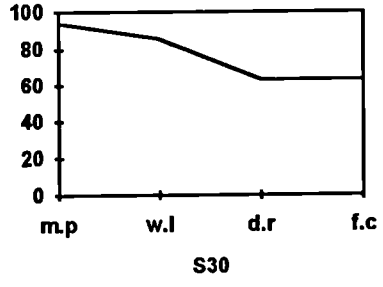
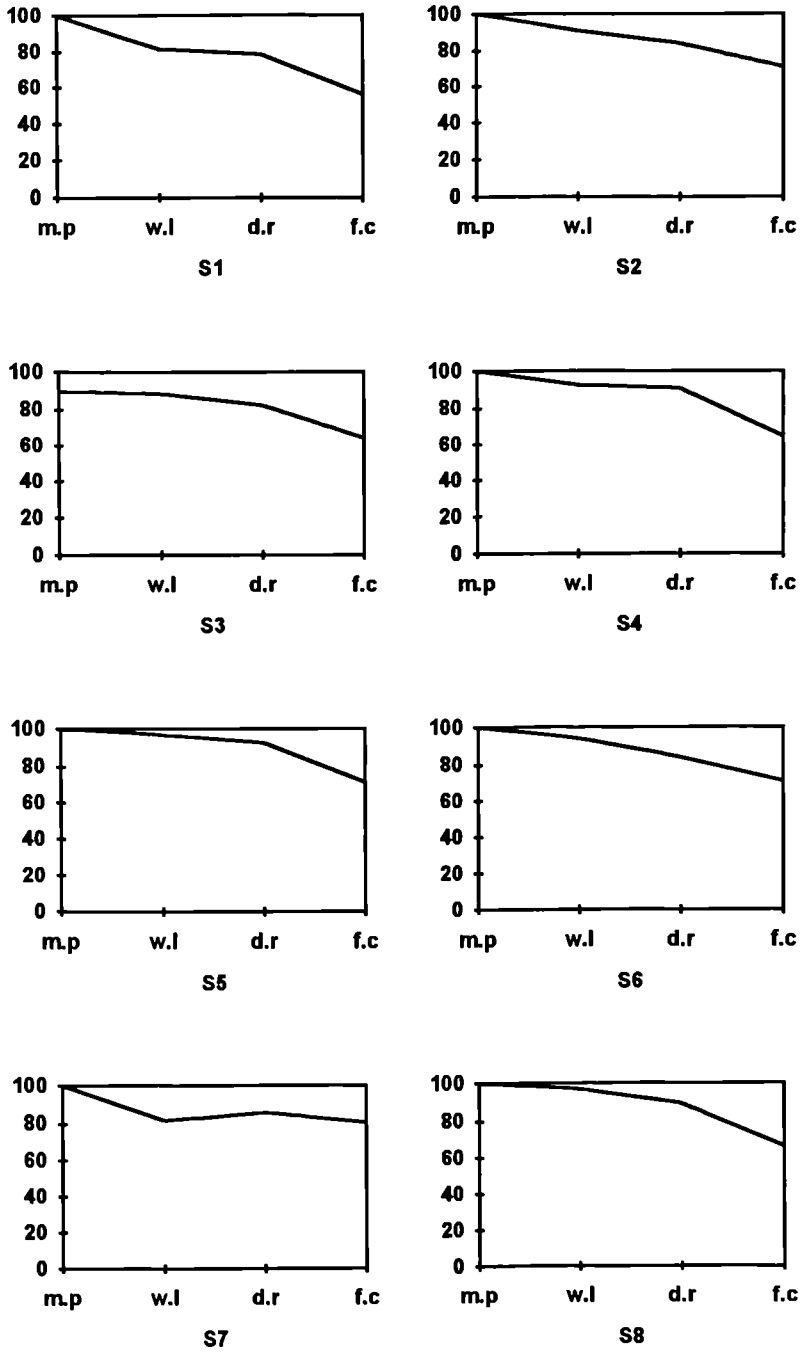
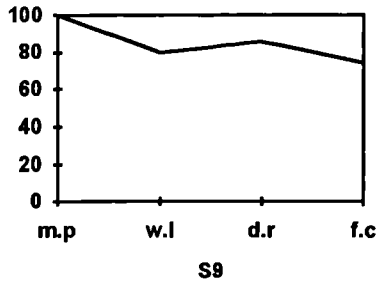
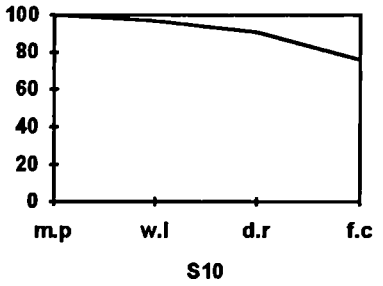


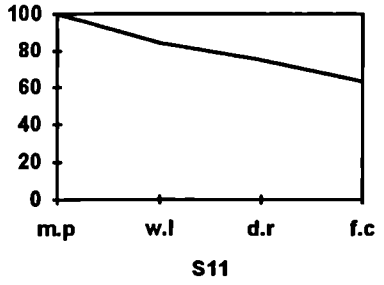
Fig. 5.3 Stylistic Patterning of Phoneme /v/

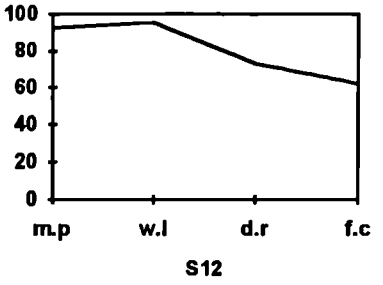


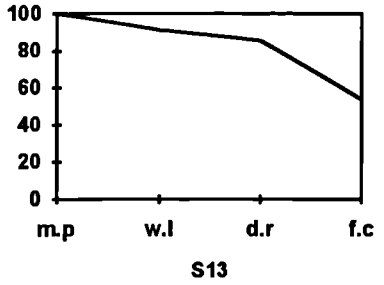
Stylistic Patterning of Phoneme /v/ (cont.)

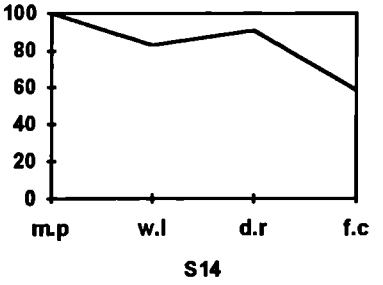


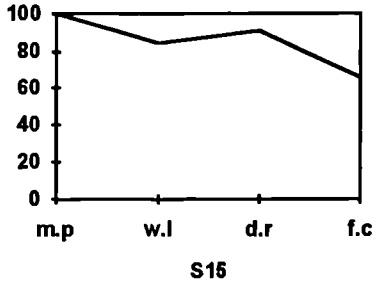


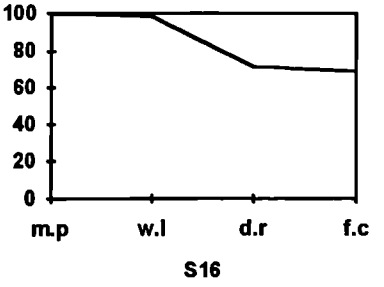




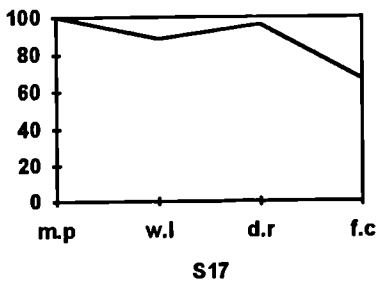




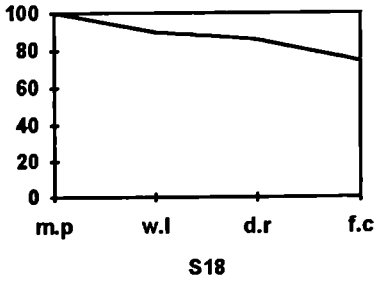




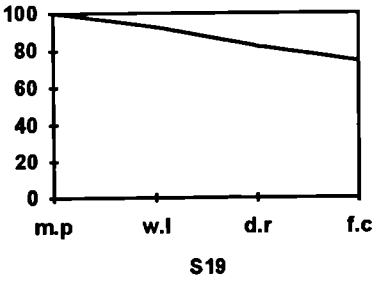
Stylistic Patterning of Phoneme /v/ (cont.)



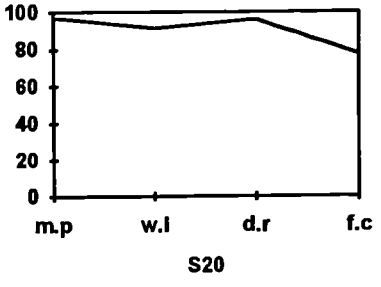
S17



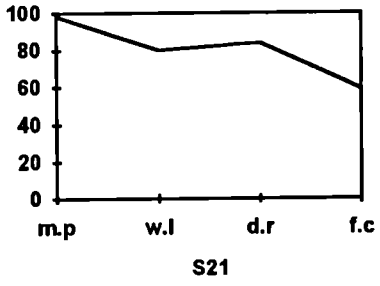
S18



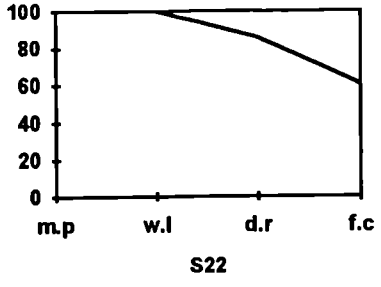
S19



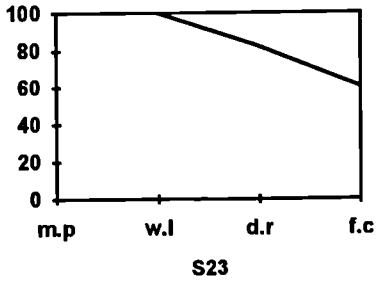
S20



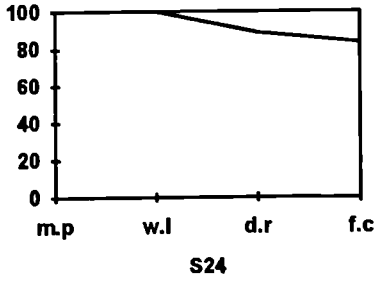
S21



S22



S23



S24

Stylistic Patterning of Phoneme /v/ (cont.)

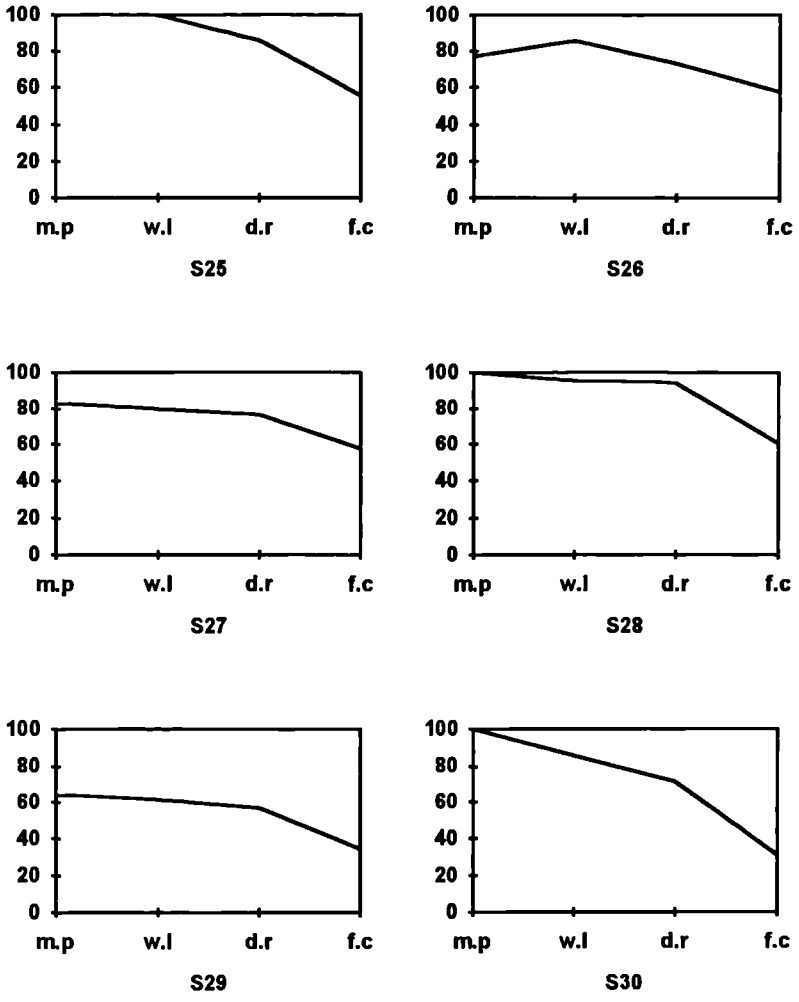
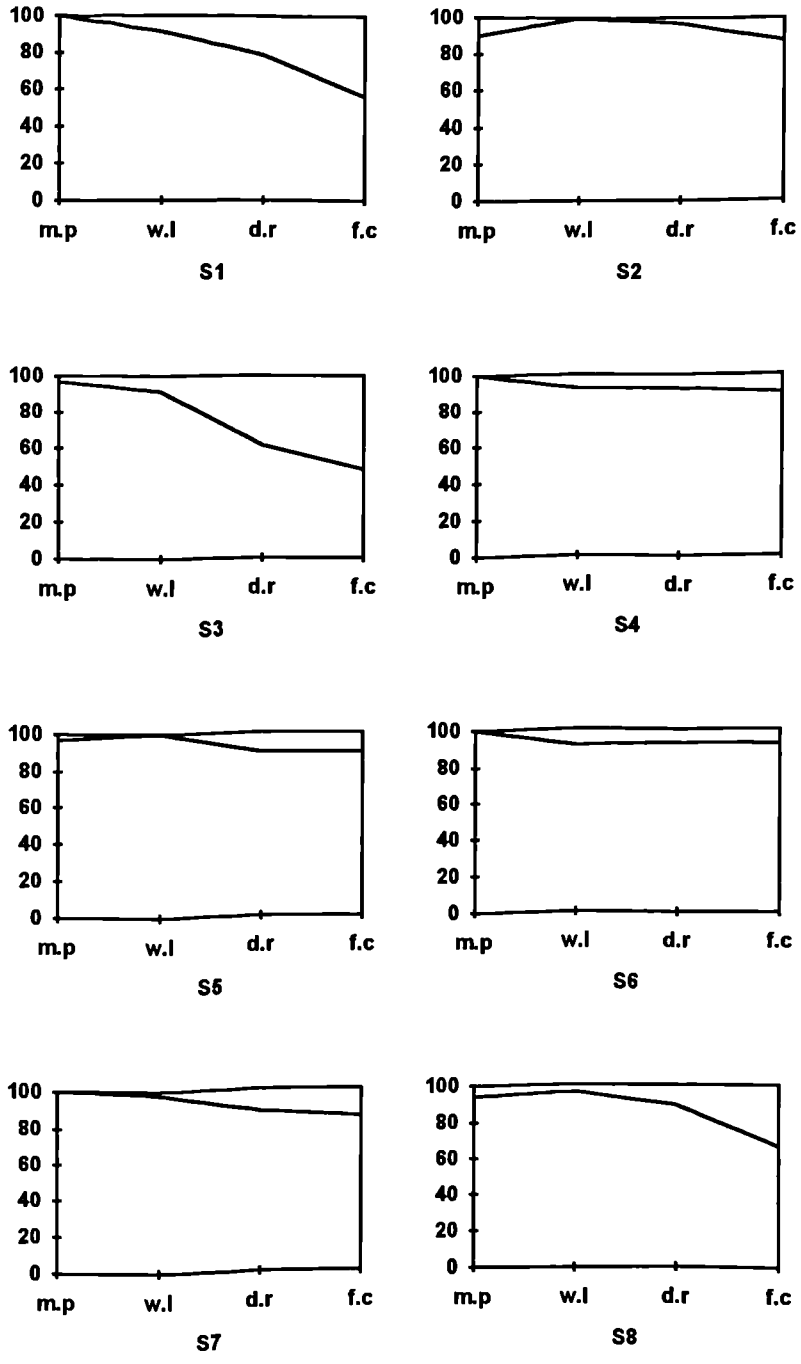
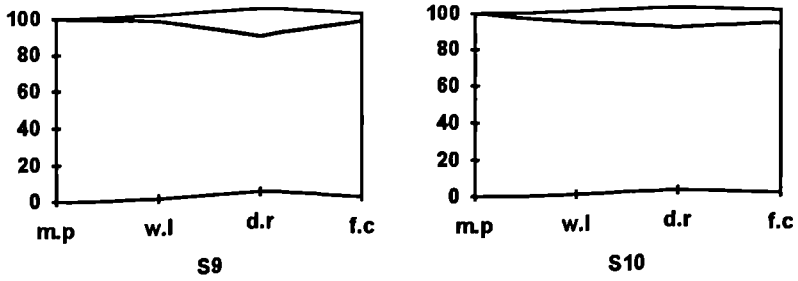
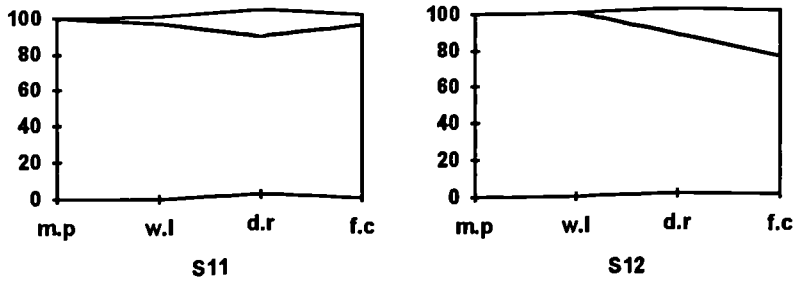


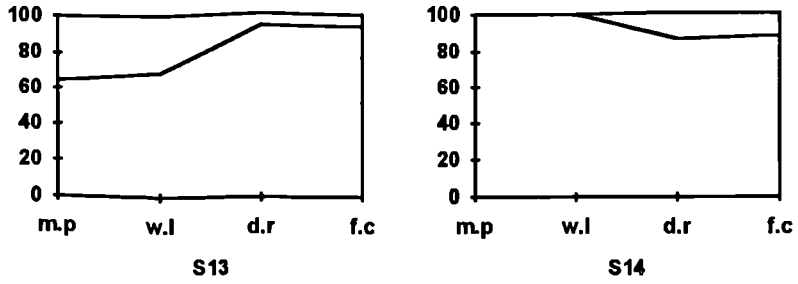
Fig 5.4 Stylistic Patterning of Phoneme /r/

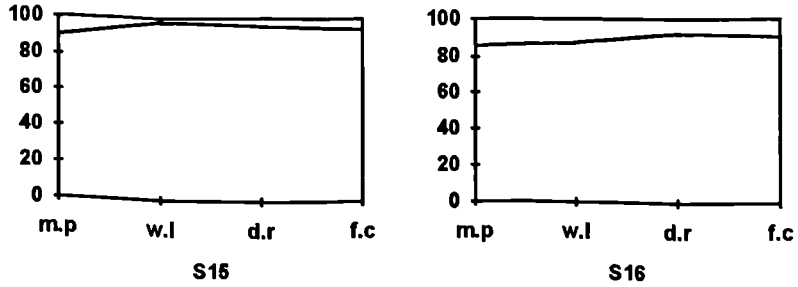


Stylistic Patterning of Phoneme /r/ (cont.)

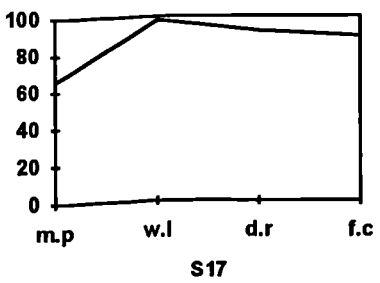


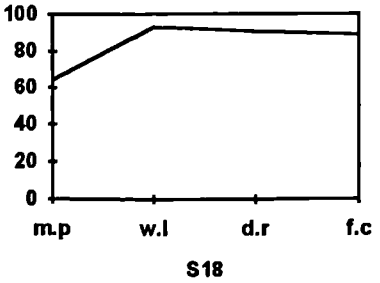


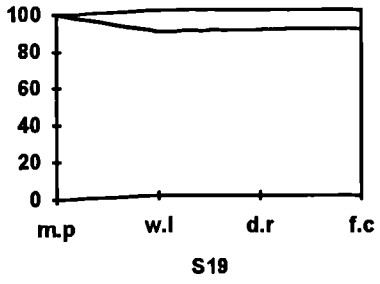


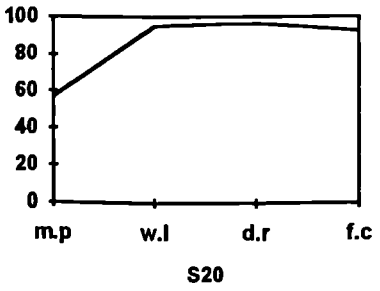


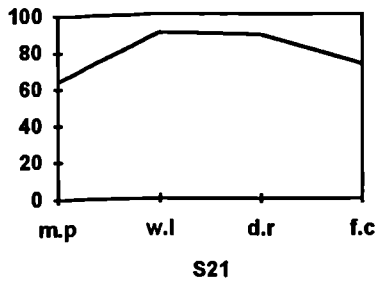
Stylistic Patterning of Phoneme /r/ (cont.)

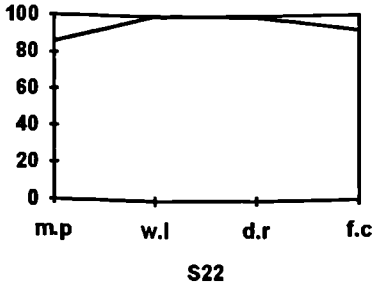


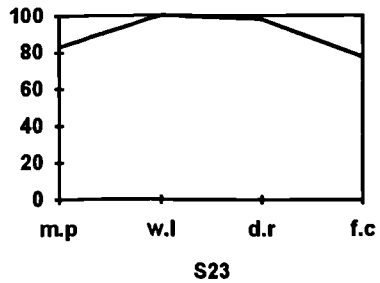


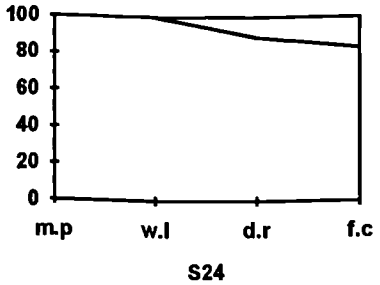












Stylistic Patterning of Phoneme /r/ (cont.)

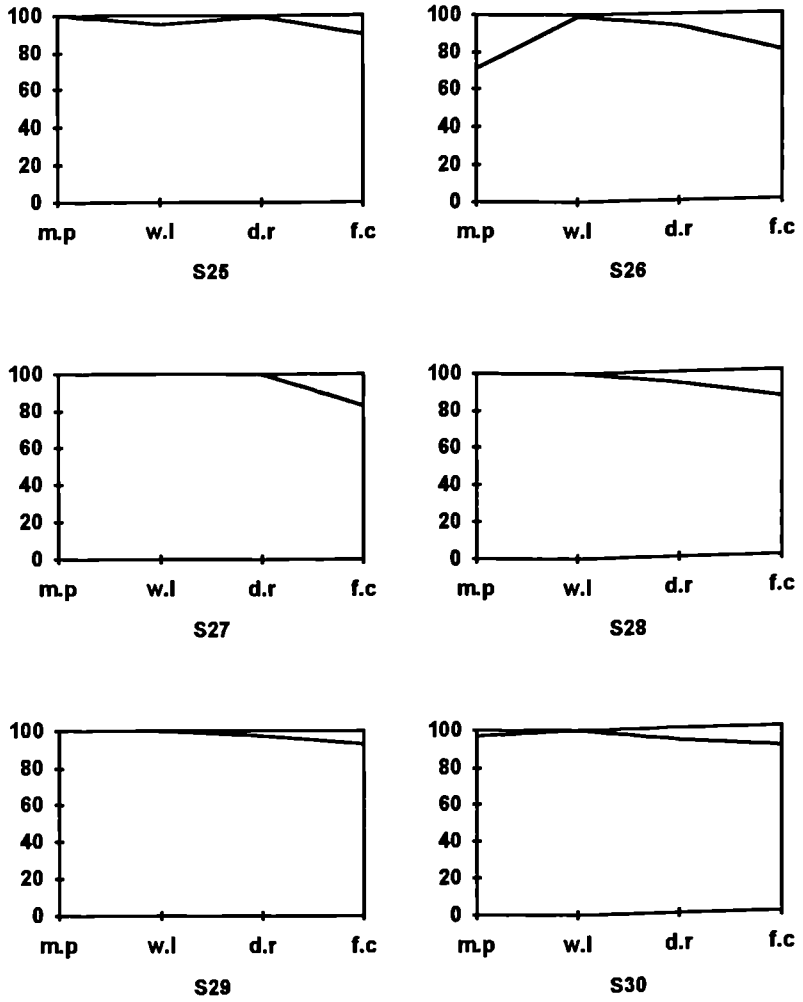
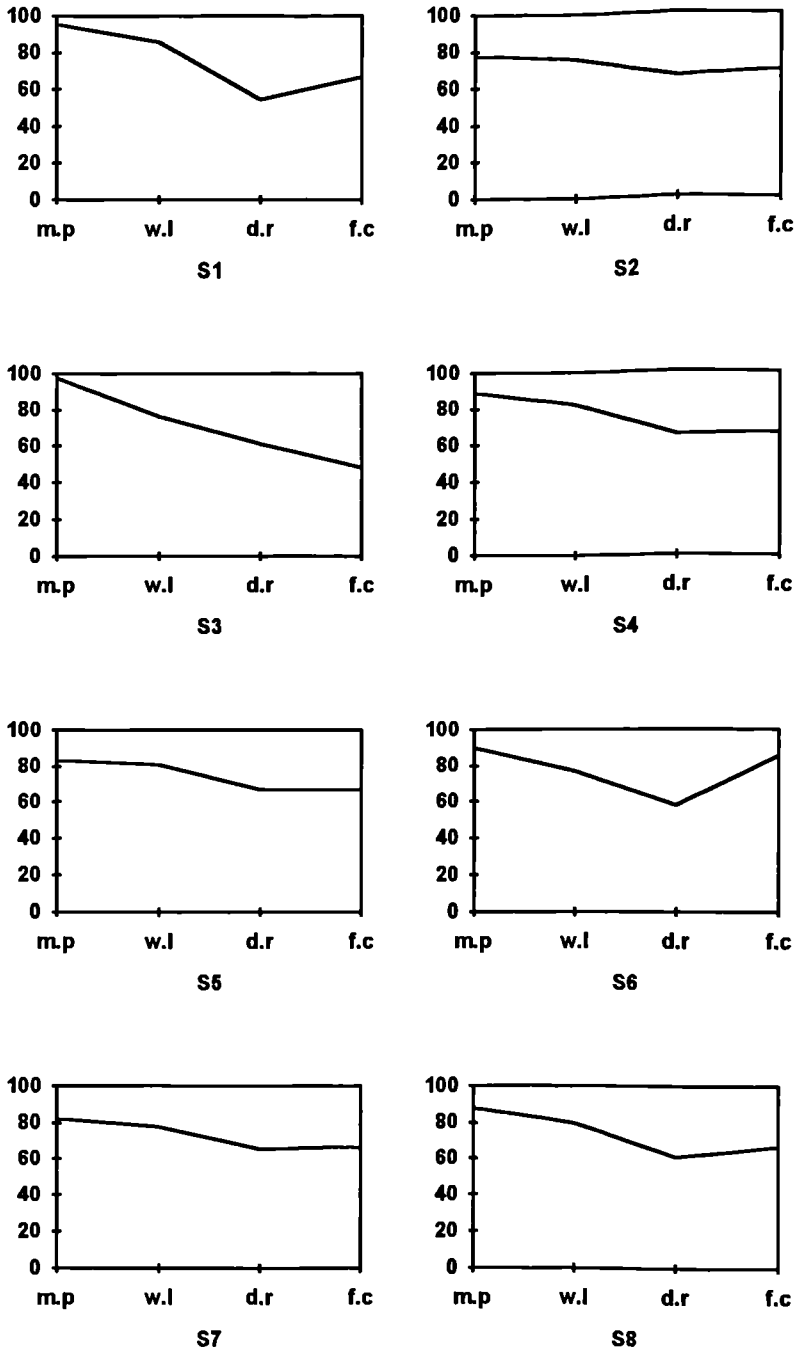
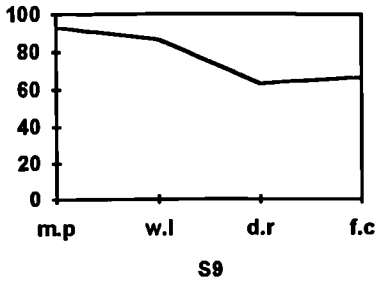


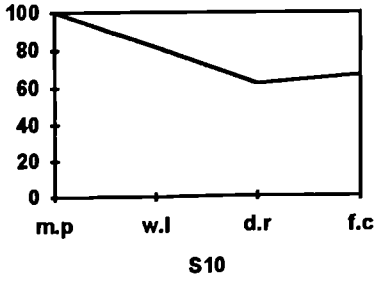
Fig 5.5 Stylistic Patterning of Phoneme /p/



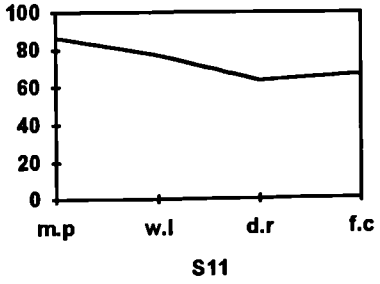
Stylistic Patterning of Phoneme /p/ (cont.)



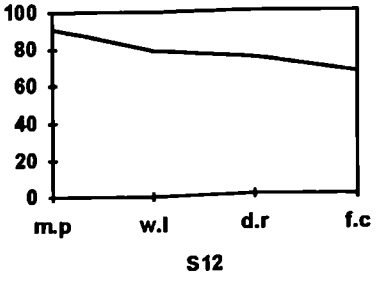
S9



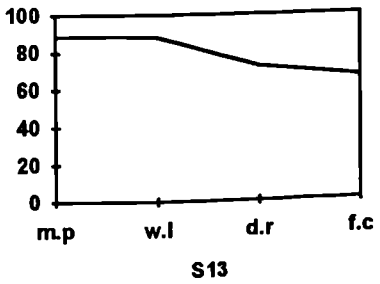
S10



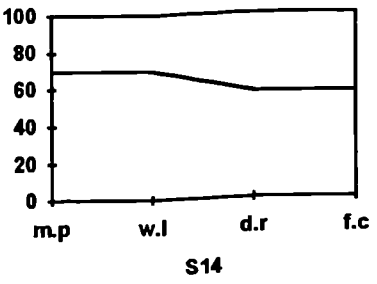
S11



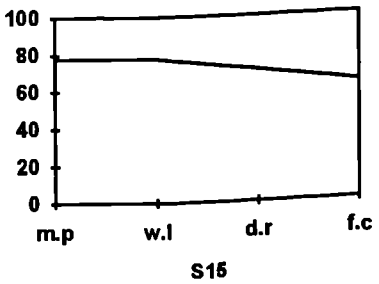
S12



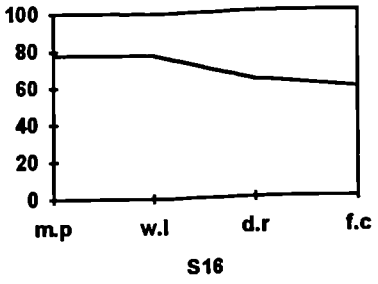
S13



S14

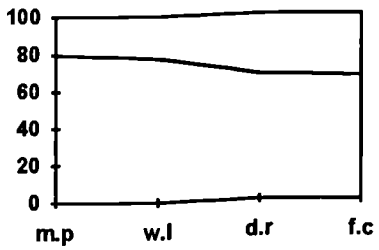


S15

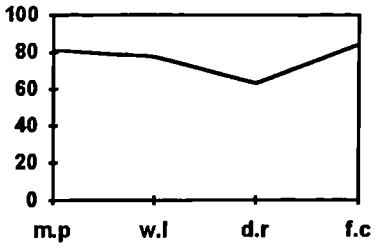


S16

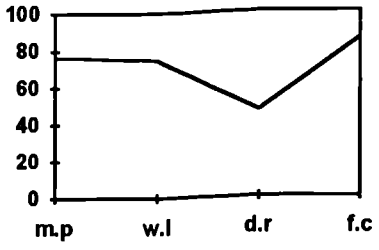
Stylistic Patterning of Phoneme /p/ (cont.)



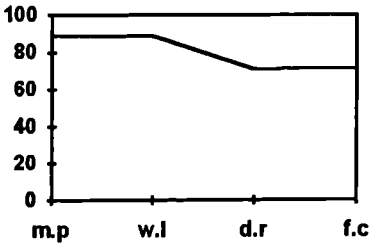
S17



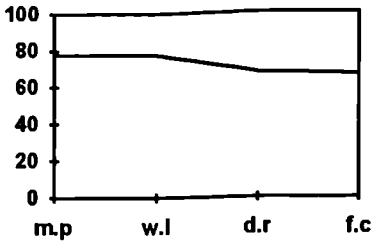
S18



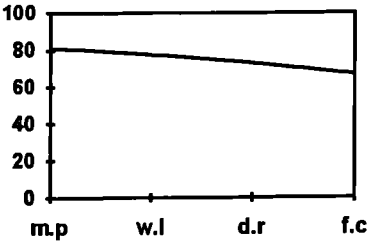
S19



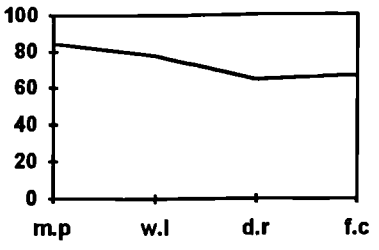
S20



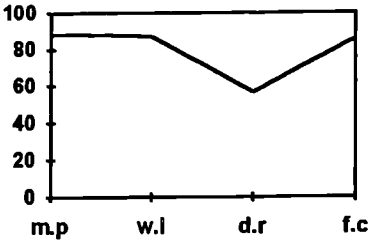
S21



S22

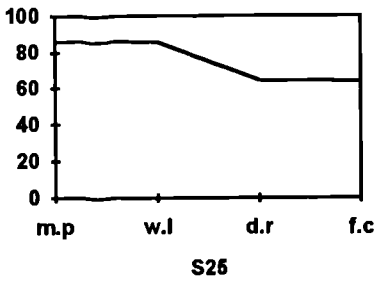


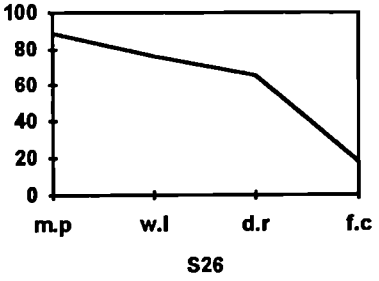
S23

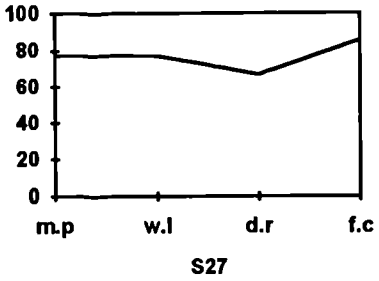


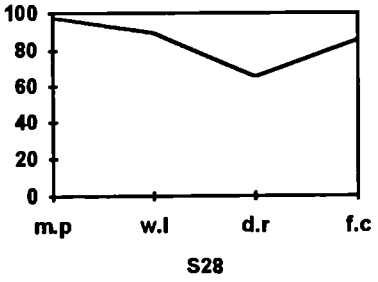
S24

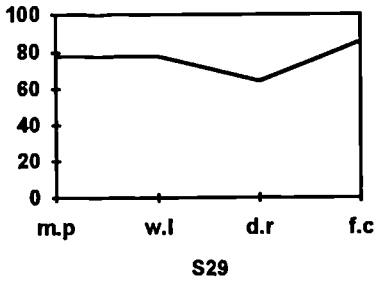
Stylistic Patterning of Phoneme /p/ (cont.)











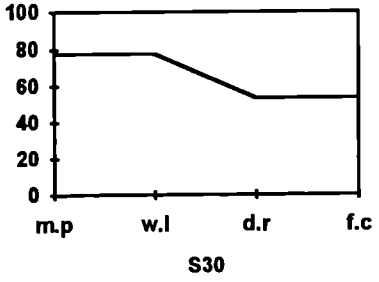
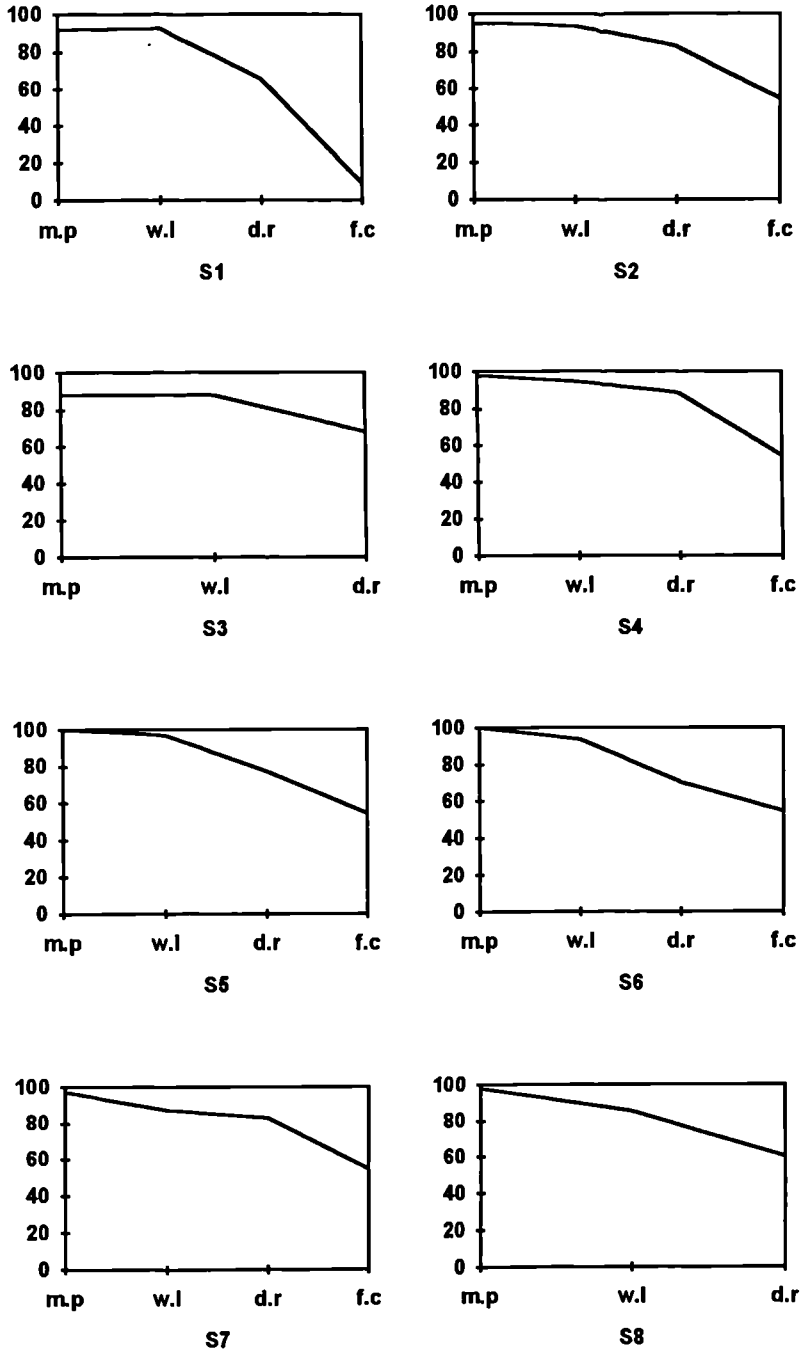
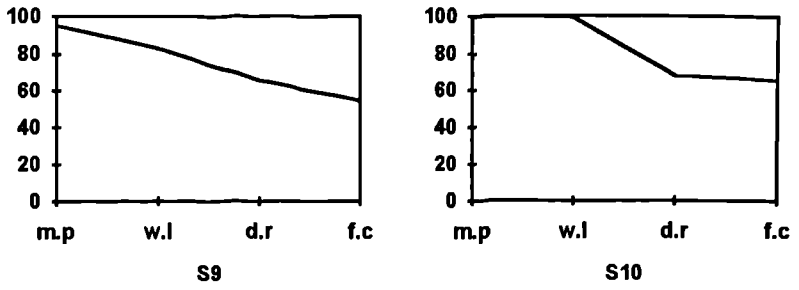
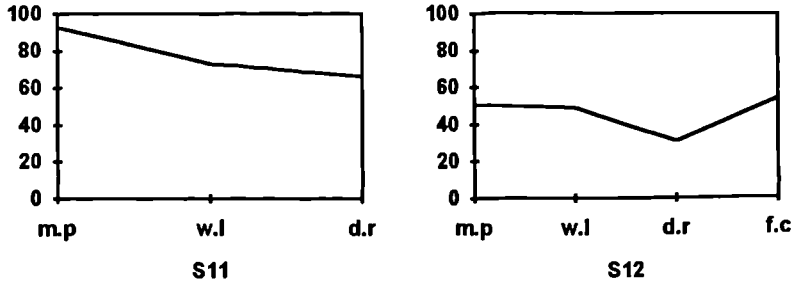


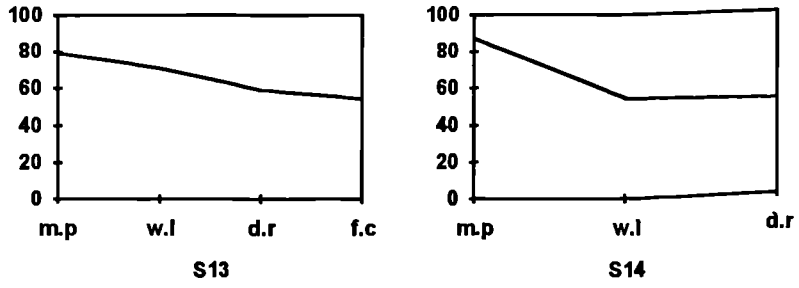
Fig 5.6 Stylistic Patterning of Phoneme /b/

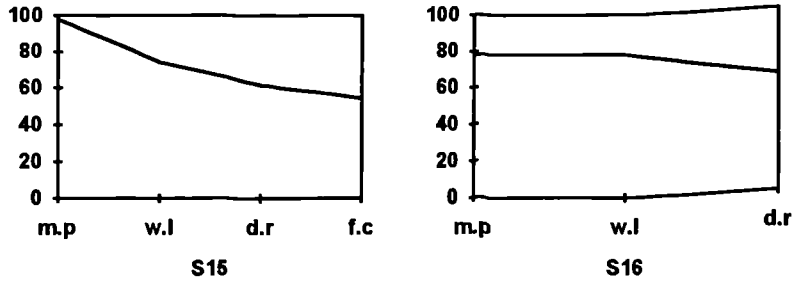


Stylistic Patterning of Phoneme /b/ (cont.)

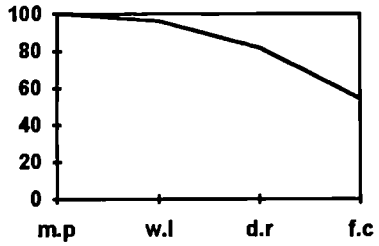




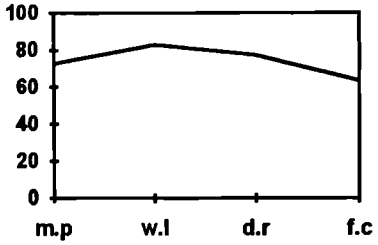




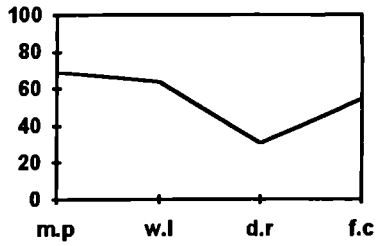
Stylistic Patterning of Phoneme /b/ (cont.)



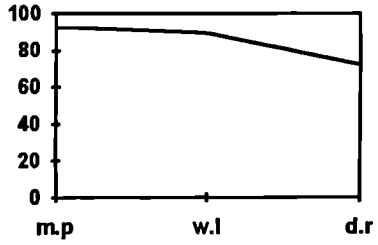
S17



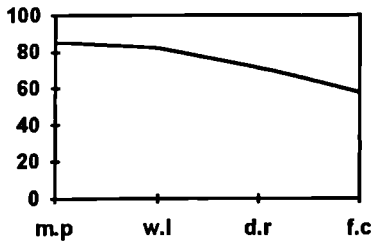
S18



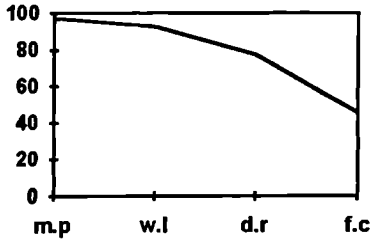
S19



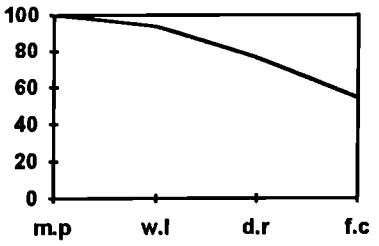
S20



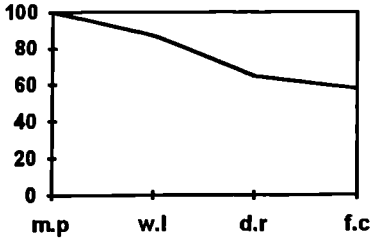
S21



S22



S23



S24

Stylistic Patterning of Phoneme /b/ (cont.)

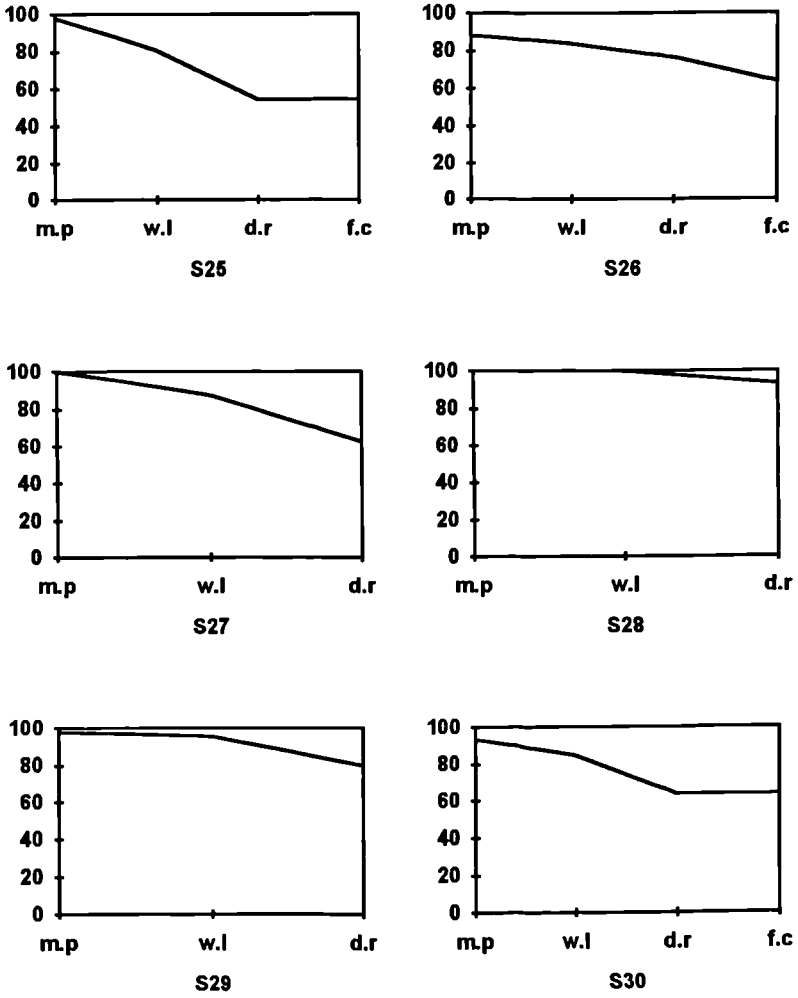
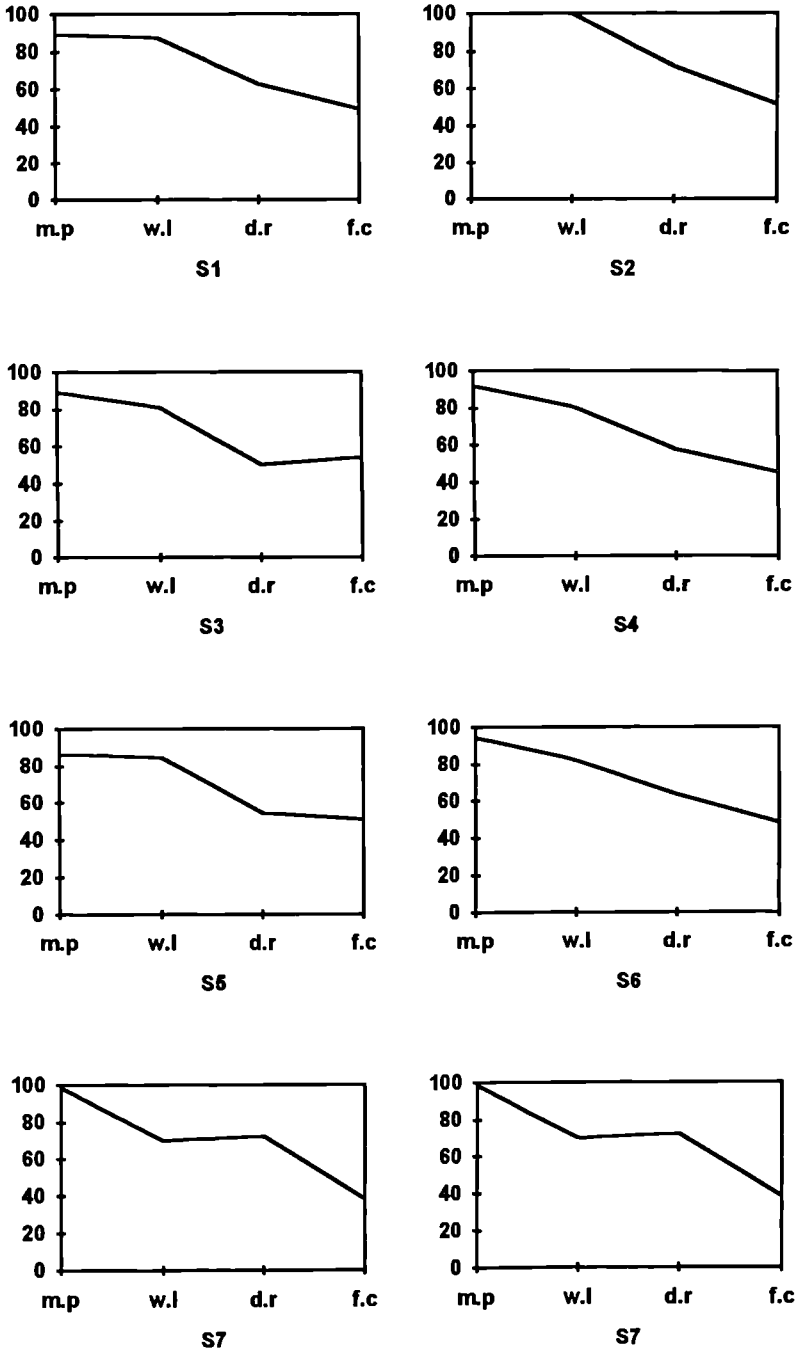
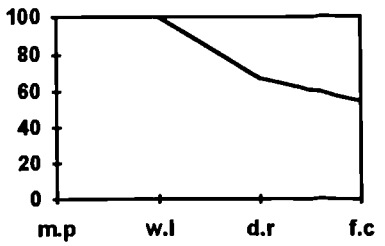


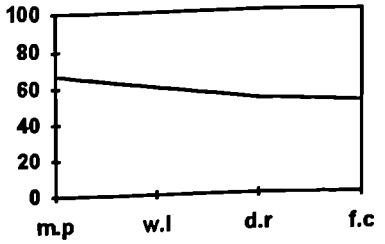
Fig. 5.7 Stylistic Patterning of Phoneme /t/



Stylistic Patterning of Phoneme /t/ (cont.)

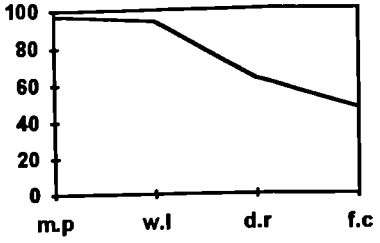


S9

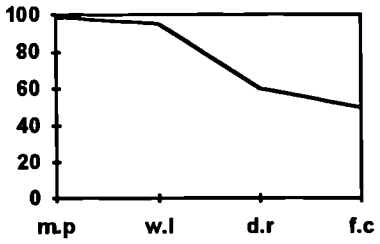


S10

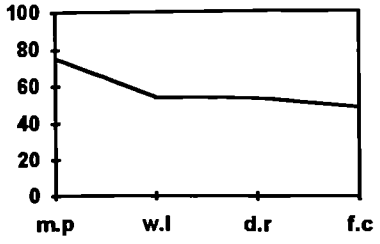
S11



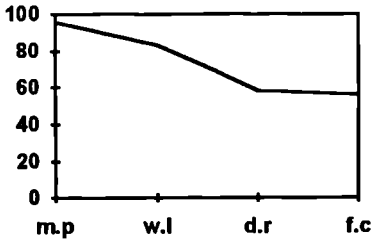
S12



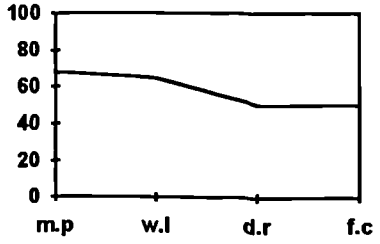
S13



S14

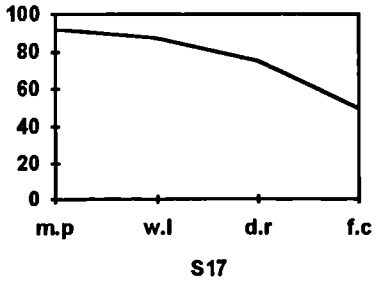


S15

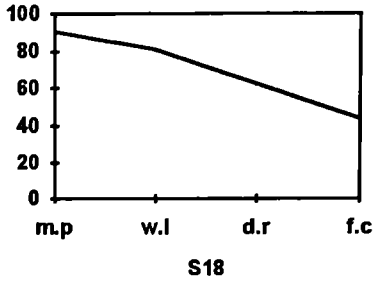


S16

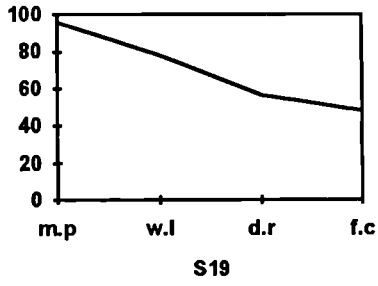
Stylistic Patterning of Phoneme /t/ (cont.)



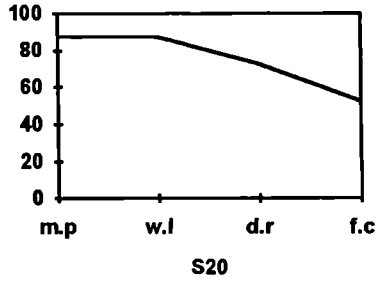
S17



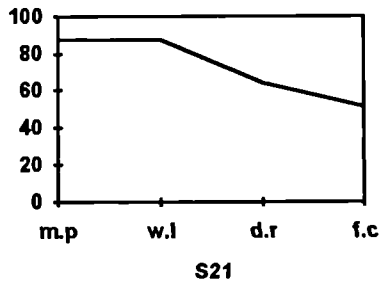
S18



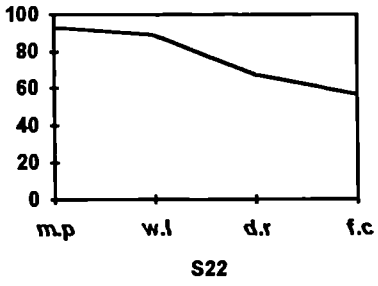
S19



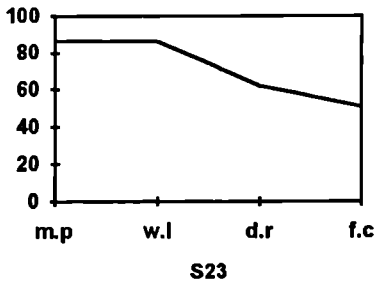
S20



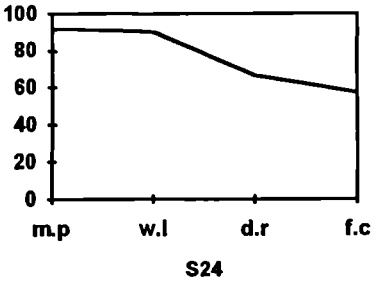
S21



S22

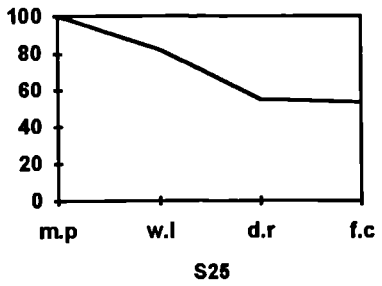


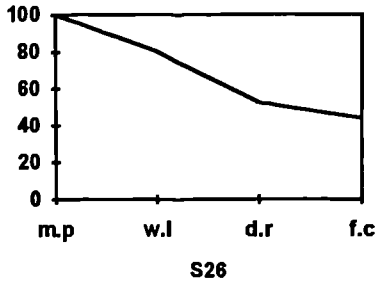
S23

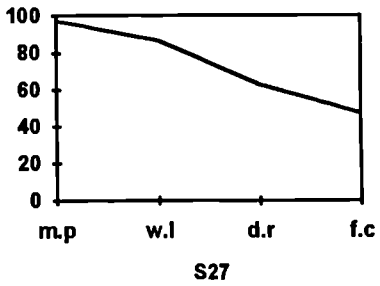


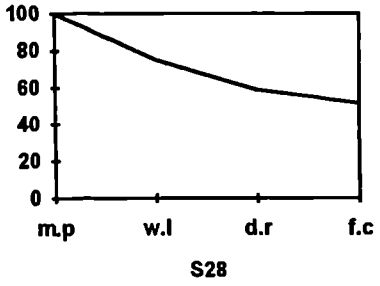
S24

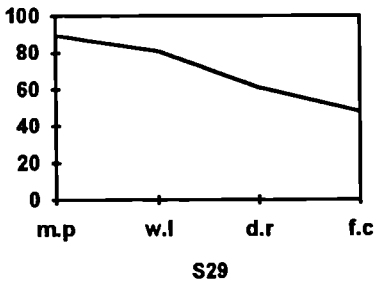
Stylistic Patterning of Phoneme /t/ (cont.)











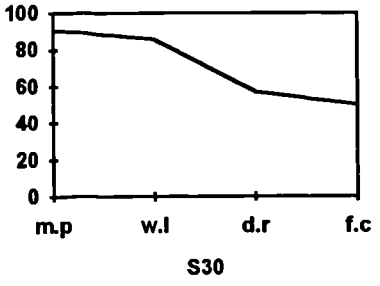
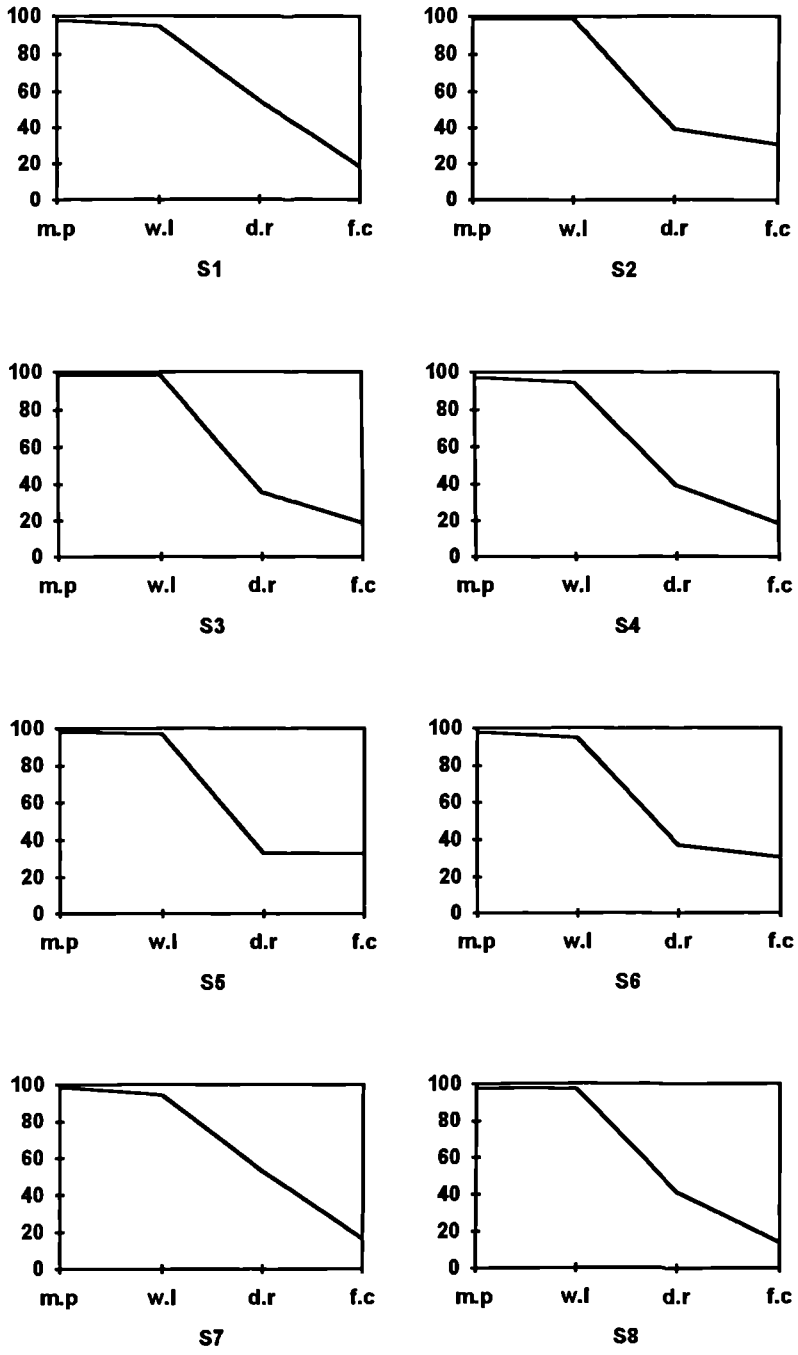
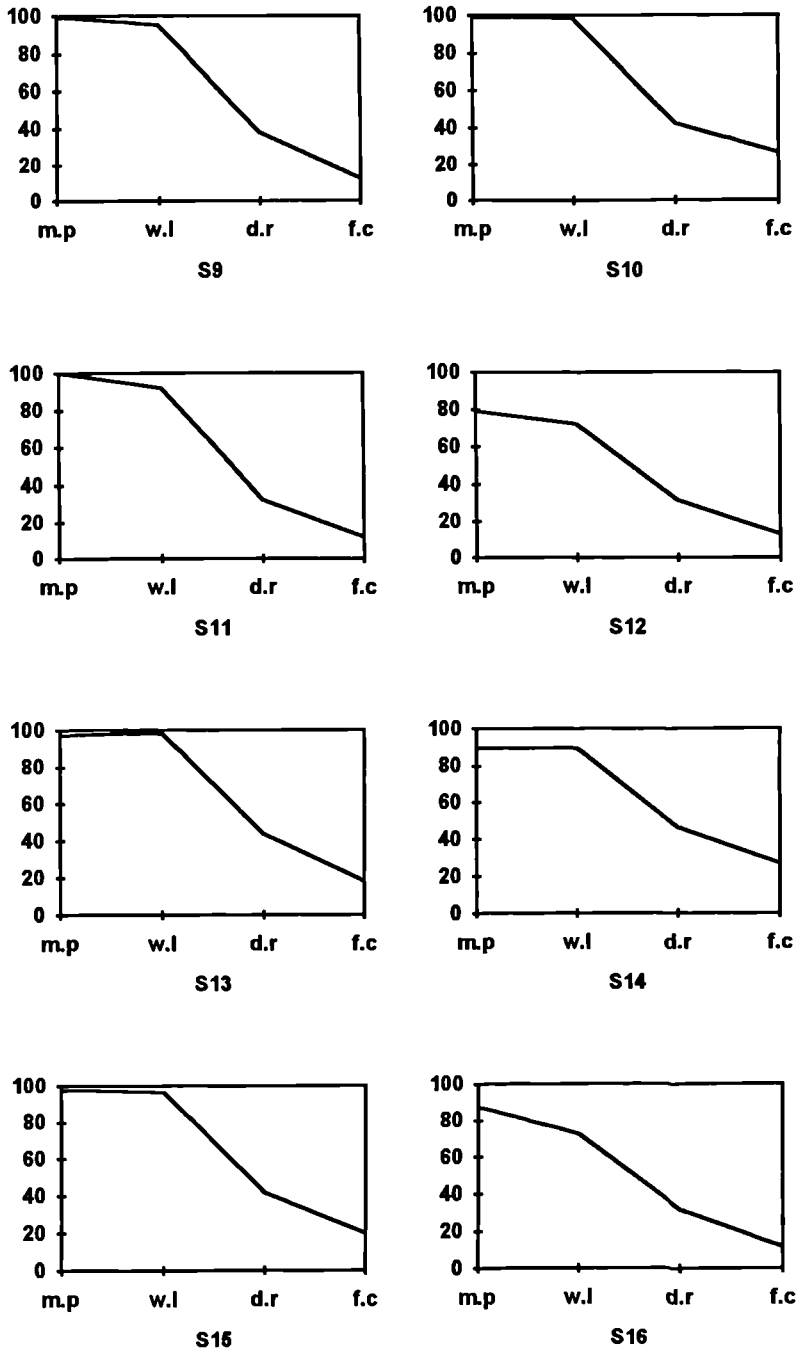


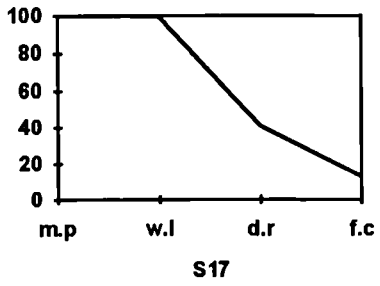
Fig 5.8 Stylistic Patterning of Phoneme /d/



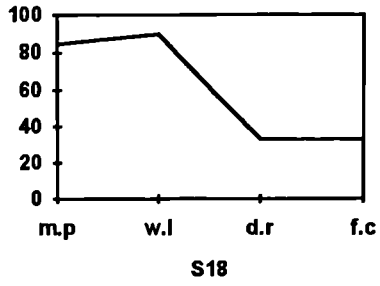
Stylistic Patterning of Phoneme /d/ (cont.)



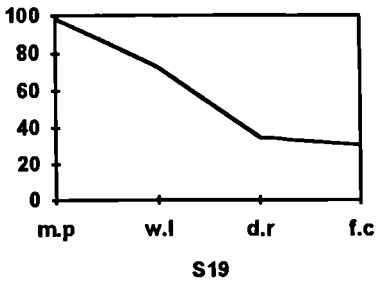
Stylistic Patterning of Phoneme /d/ (cont.)



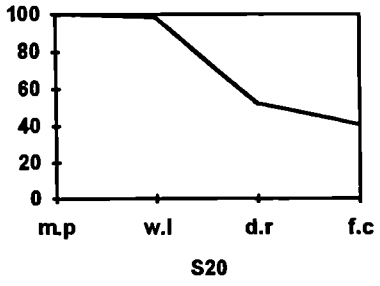
S17



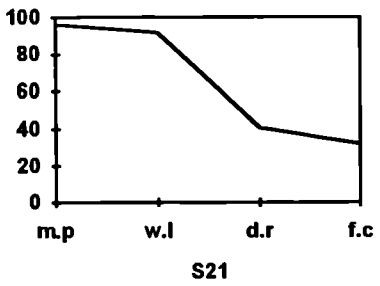
S18



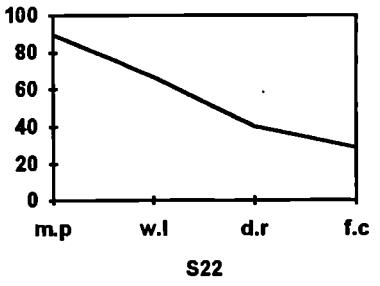
S19



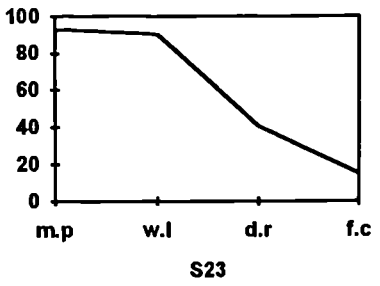
S20



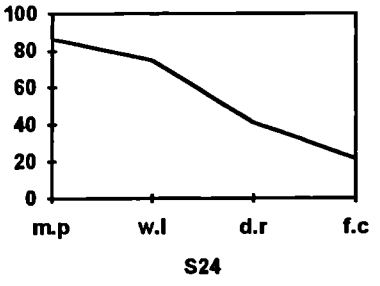
S21



S22



S23



S24

Stylistic Patterning of Phoneme /d/ (cont.)

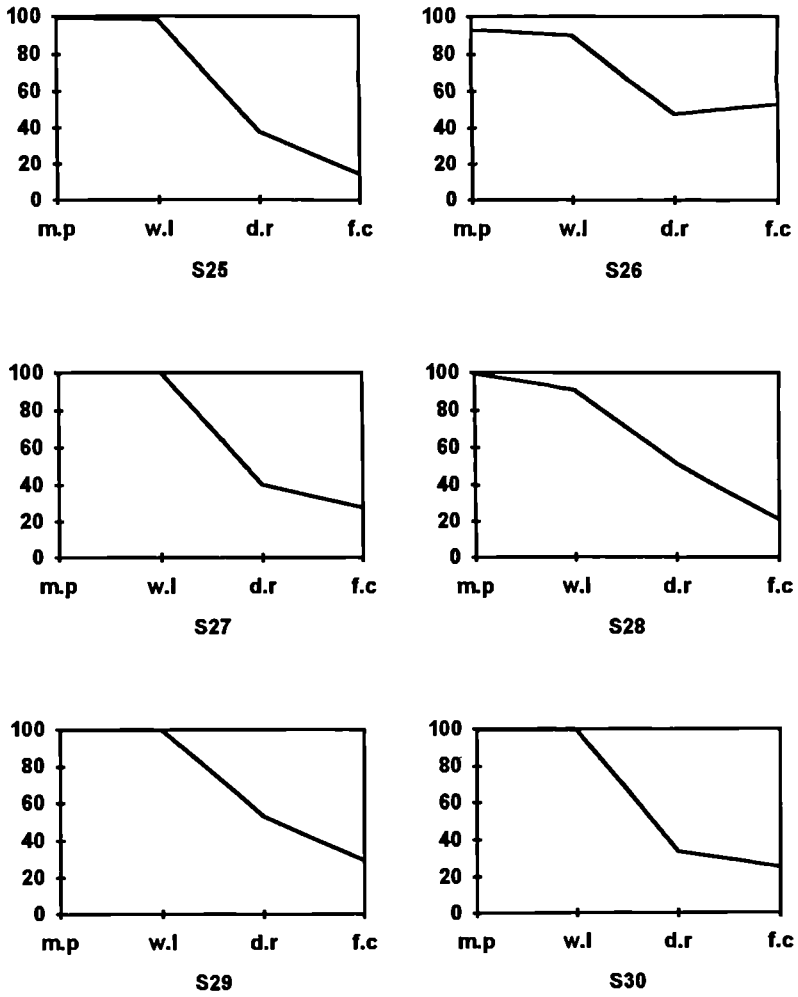
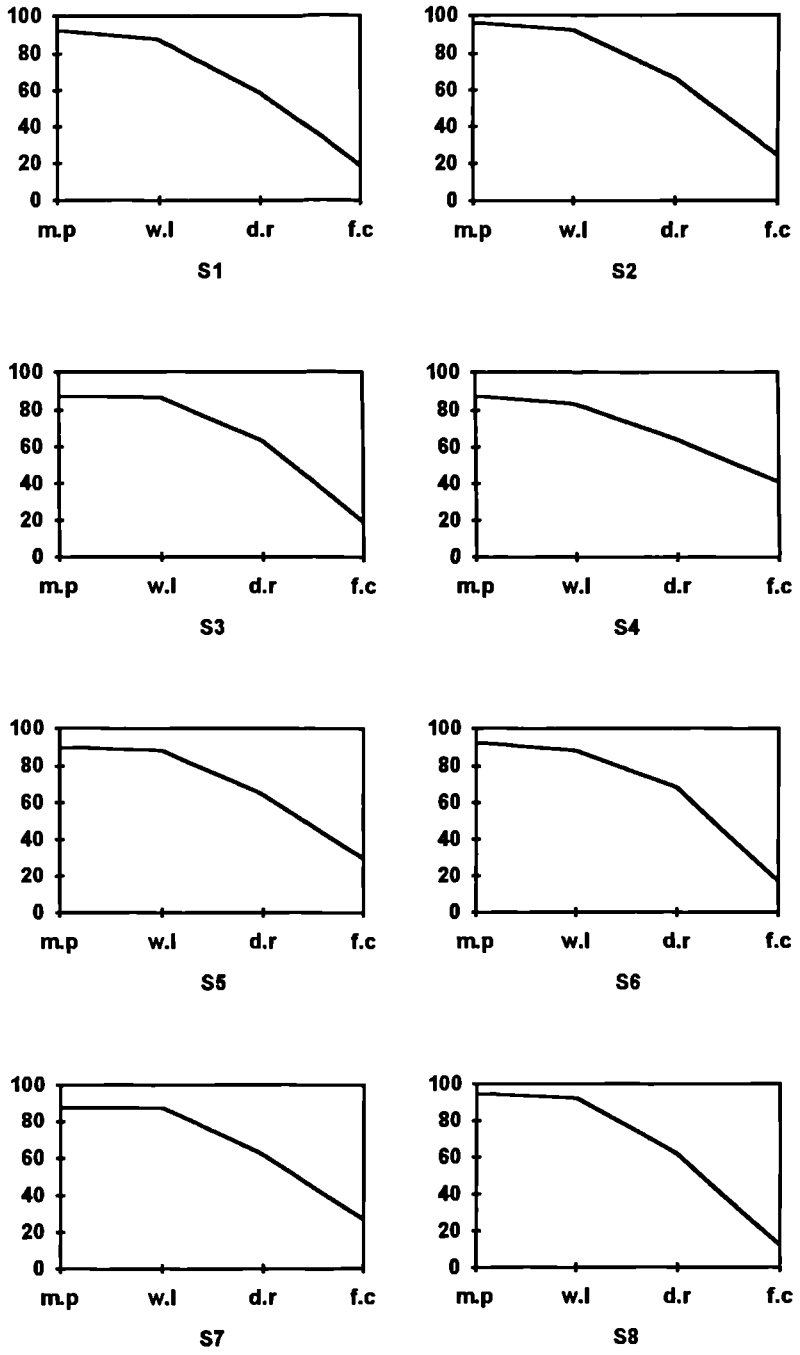
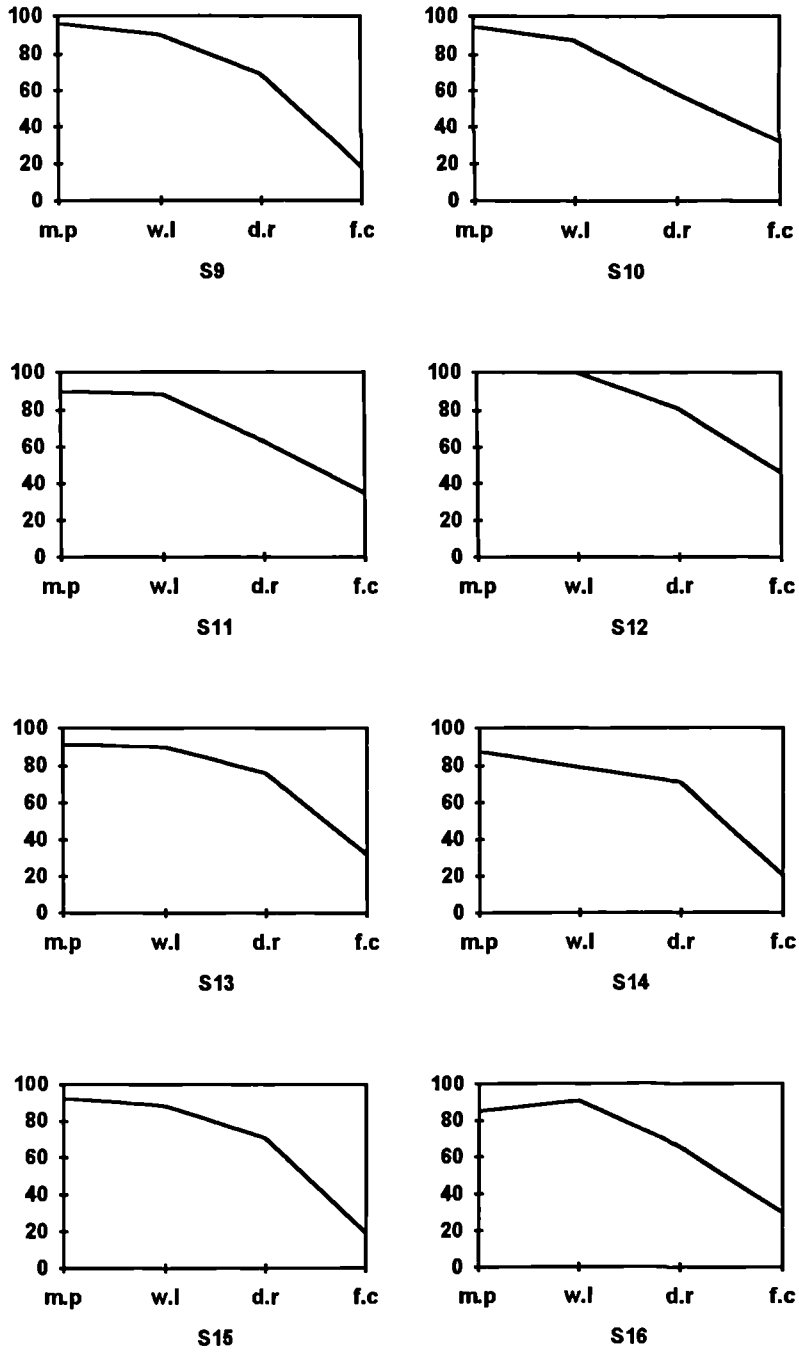


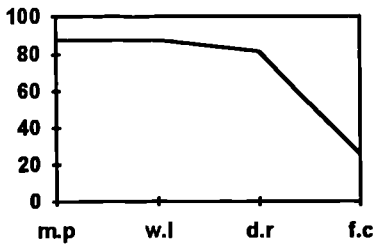
Fig. 5.9 Stylistic Patterning of Phoneme /k/



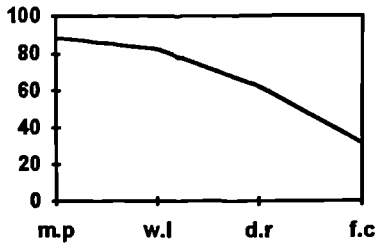
Stylistic Patterning of Phoneme /k/ (cont.)



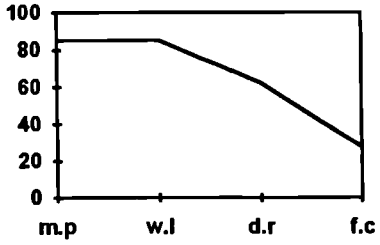
Stylsitic Patterning of Phoneme /k/ (cont.)



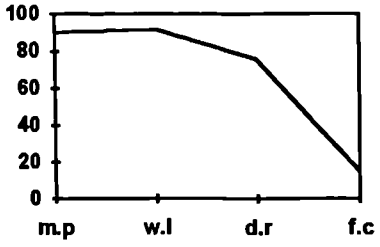
S17



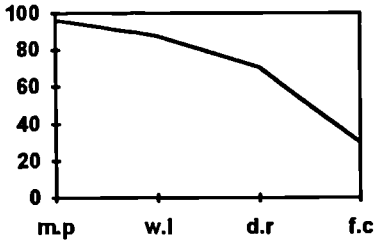
S18



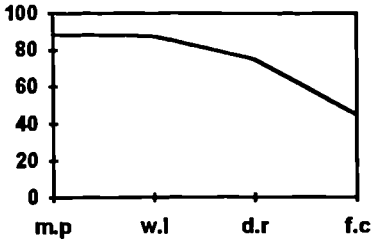
S19



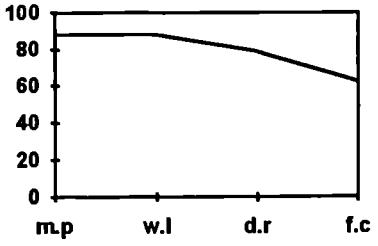
S20



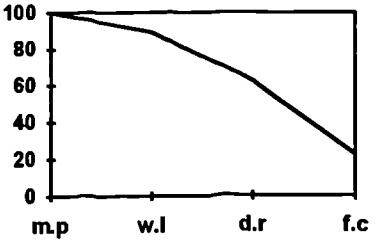
S21



S22

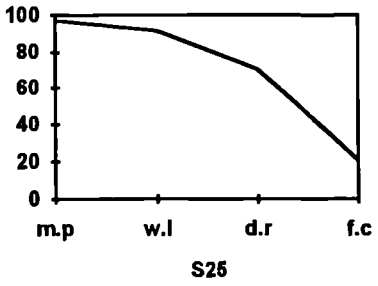


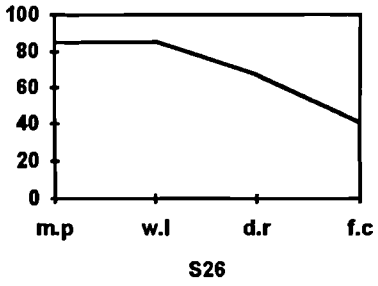
S23

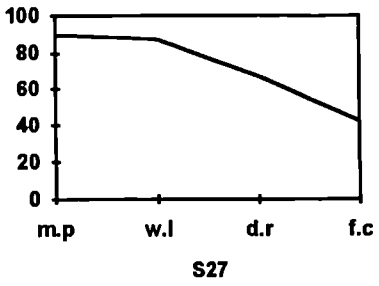


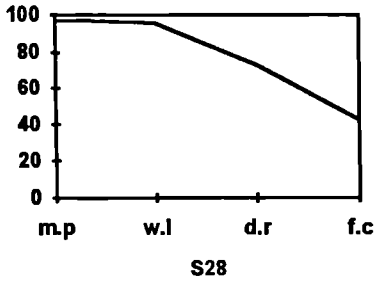
S24

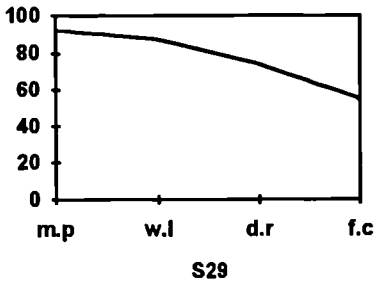
Stylistic Patterning of Phoneme /k/ (cont.)











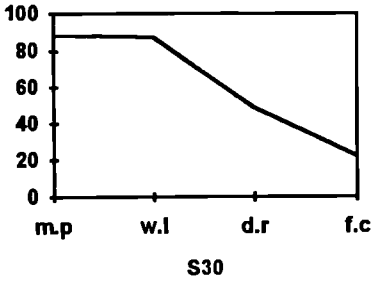
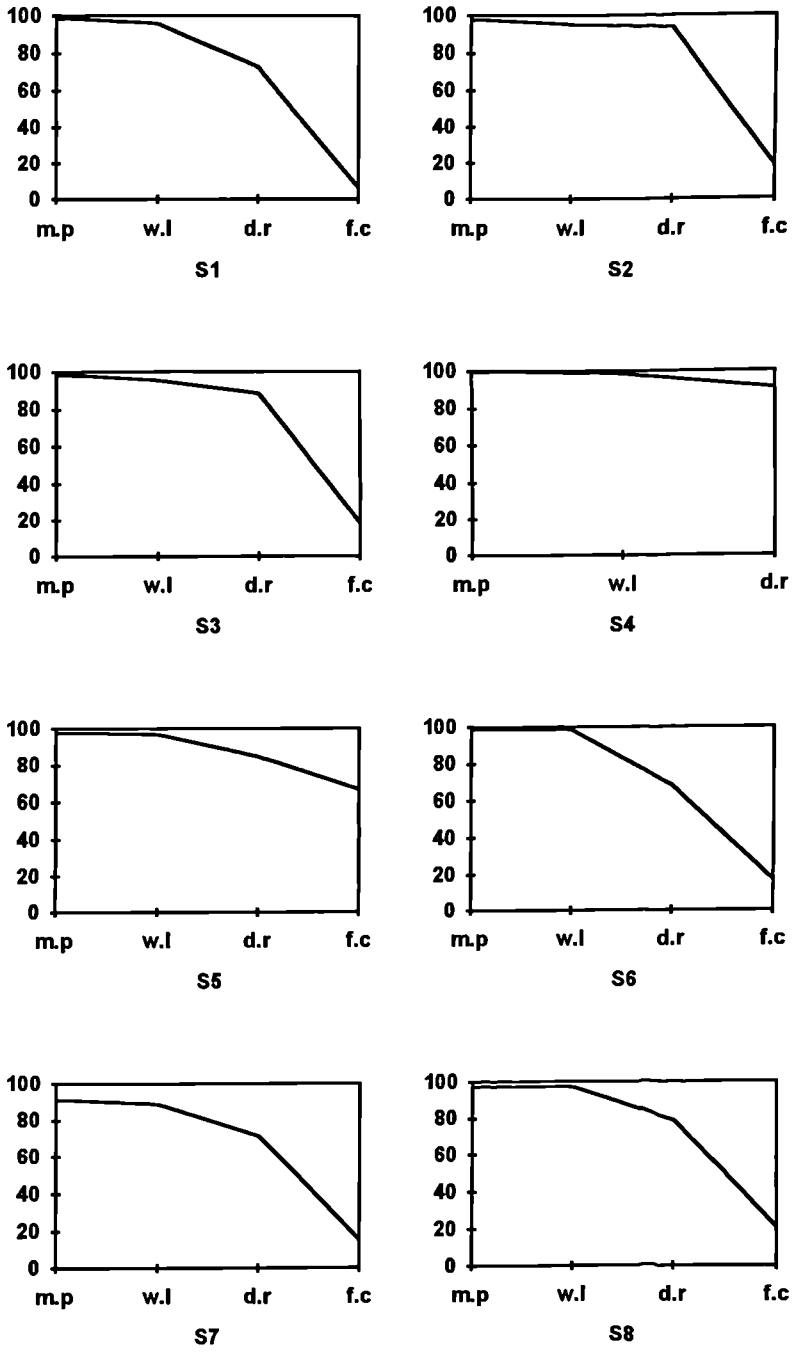
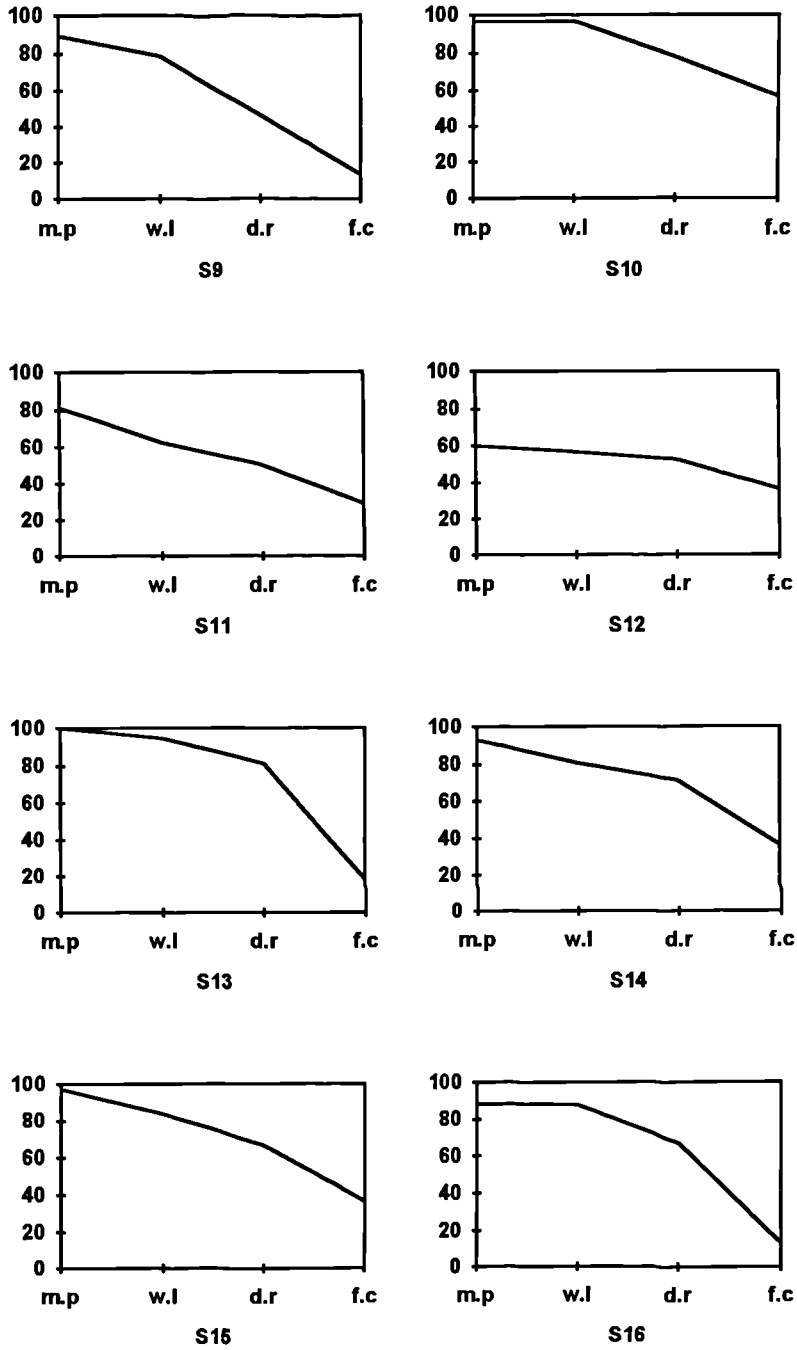


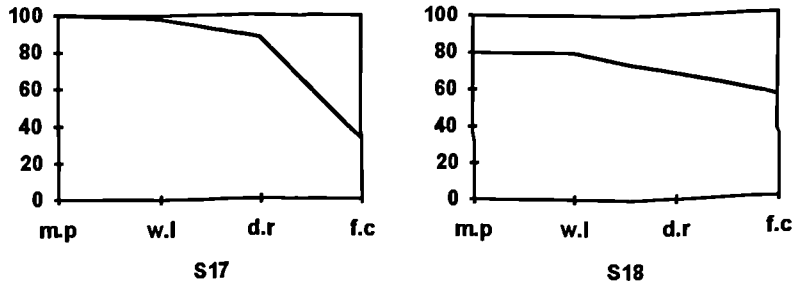
Fig 5.10 Stylistic Patterning of Phoneme /g/

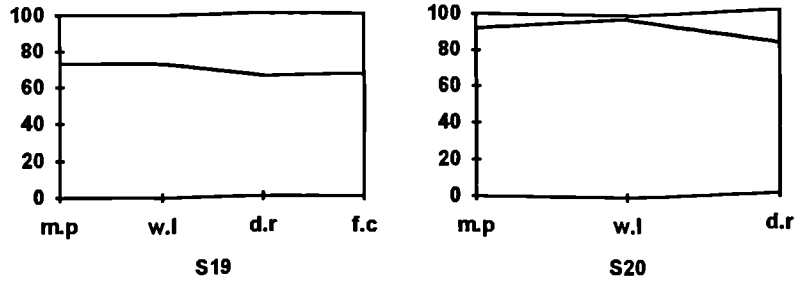


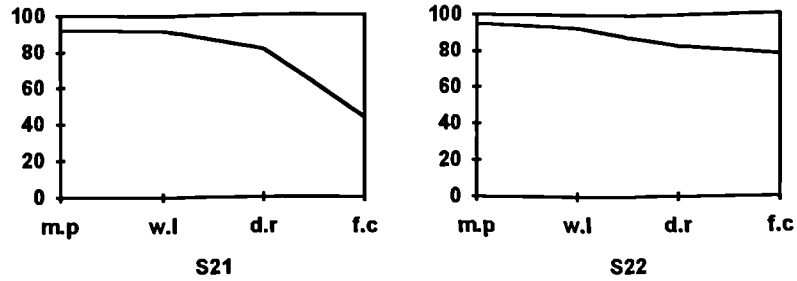
Stylistic Patterning of Phoneme /g/ (cont.)

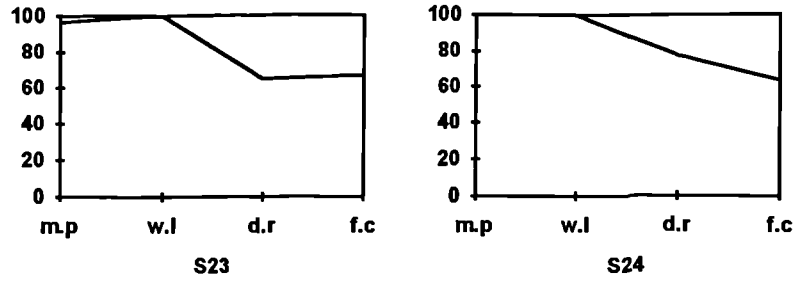


Stylistic Patterning of Phoneme /g/ (cont.)

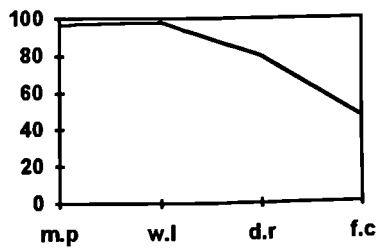




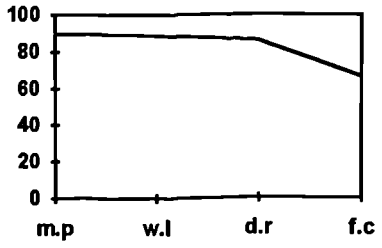




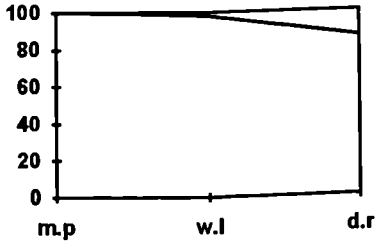
Stylistic Patterning of Phoneme /g/ (cont.)



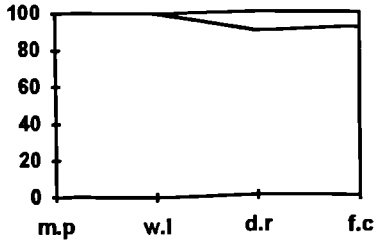
S25



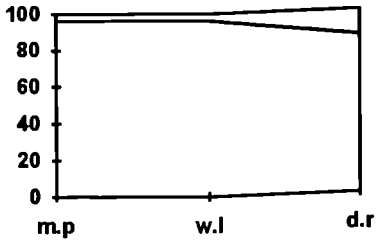
S26



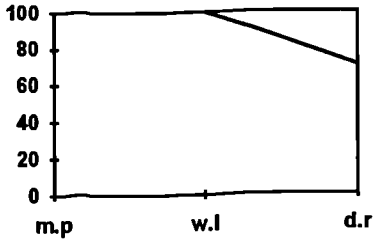
S27



S28



S29



S30

Chapter 6

Report on the Main Investigation

6.1 Stylistic Patterning of the Phonemes

'Stylistic Stratification' in the context of this study refers to the shifting of styles in the subjects speech performance across the four verbal tasks viz. the reading of minimal pairs, word list reading, dialogue reading and free conversation. The four verbal tasks mentioned above represent a variety of situational contexts ranging from the most formal to the most casual form of speech styles. The tasks given to the subjects require that a different degree of attention be paid to their speech production. In minimal pairs and word list reading, the subjects are required to focus greater attention on their pronunciation of individual words (form) rather than on the content of their speech. However, as they approach dialogue reading, they are likely to give less attention to the form of their speech than that of minimal pairs and word list reading. This is because dialogue reading requires a greater pace compared with minimal pairs and word list reading resulting in a difference of style. On the other hand, when the subjects are involved in free conversation, they are likely to focus their attention on the content of the speech rather than the pronunciation of individual words. According to the Labovian 'attention to speech' dimension, as subjects pay most attention to their speech production they are likely

to produce the 'most careful' (formal) speech style which is characterised by high achievement of the TL variants. On the other hand, if the subjects paid the least attention to the speech production, they are likely to produce the 'casual' style which contains variants which are more distant from the TL sound. If the Labovian 'attention to speech' dimension holds true for Malaysian learners of English, it is then expected that the subjects' speech performance will record the highest index score in the task which requires the greatest attention to be paid to the speech with the lowest index score in the task which has the least attention. Thus it should follow that the highest index score will be recorded in the reading of minimal pairs, followed by word list reading, then dialogue reading and finally free conversation.

The overall results of this study show that the subjects performance across the four verbal tasks is variable. Section 6.1.1 below outlines and discusses the patterns of stylistic variability of all the phonemes under investigation in this study.

6.1.1 Stylistic Patterning of Phoneme /θ/

The general patterning of the differences in the subjects' linguistic behaviour across the four verbal tasks indicates a progressive decline in the subjects' performance (as recorded in the index score) as they move from one task to another i.e. the reading of minimal pairs, word list reading, dialogue reading and free conversation respectively. This pattern is exhibited in all the subjects' performance. Fig. 5.1 illustrates a downward movement of the slope reflecting the changing proportion of variants as the subjects move from the task which requires the greatest attention be paid to the speech production to the task which requires the least attention. This indicates that a higher proportion of the TL variants, or variants which are closer to the TL sound, are employed in the reading of minimal pairs and word list, a lesser proportion of the TL variants in dialogue reading and

finally the least proportion of the TL variants in free conversation. The subjects use a high proportion of TL variants or variants which are closer to phoneme /θ/ in their minimal pairs and word list reading. 24 out of the total number of 30 subjects (80 %) in this study produced the correct TL variant /θ/ in the reading of minimal pairs while 73 % of the subjects record percentage index scores of 90 % and above in the reading of the word list. This is followed by dialogue reading which records a mean score of 81.65 indicating the presence of fewer TL variants in the subjects speech performance. Free conversation records the lowest percentage index score with the mean score of 57.34. This is an indication of the occurrence of a high percentage of variants which are distant from the TL phoneme.

The general patterning of the subjects' linguistic behaviour for phoneme /θ/ across the four verbal tasks seems to support the predicted ranking of styles according to the 'attention to speech' hypothesis.

6.1.2 Stylistic Patterning of Phoneme /ð/

As for the target phoneme /ð/, a similar downward slope is also observed in the subjects' speech performance i.e. the highest index score in the reading of minimal pairs, followed by word list reading , then dialogue reading and finally free conversation. This is clearly demonstrated by Fig.5.2. The subjects employed a high proportion of the TL variant /ð/ in their minimal pairs reading with a mean score of 95.75. This is followed by word list reading which records a mean score of 92.63, then dialogue reading which contains a smaller proportion of TL variants with a mean score of 81.26 and finally free conversation which has a high occurrence of variants which are distant from the TL phoneme with a mean score of 64.89.

As for its voiceless counterpart, the overall patterning of the subjects' performance of phoneme /ð/ across the four verbal tasks reflects the same pattern of hierarchical ranking of styles i.e. the highest index score in the reading of minimal pairs followed by word list reading, the dialogue reading and finally free conversation. This again supports the predicted ranking of styles according to the 'attention to speech' dimension.

6.1.3 Stylistic Patterning of Phoneme /v/

The subjects' linguistic behaviour in the production of phoneme /v/ reveals an interesting result. This is illustrated by Fig. 5.3. Though the general patterning of variants follows the predicted stylistic ranking in the performance of most of the subjects (86.67 %) across the four verbal tasks, there are some irregularities observed particularly with the performance of S14, S15, S17 and S20. These subjects record a higher index score in dialogue reading than in word list reading. One possible explanation to account for this irregular patterning lies in the text of the dialogue reading itself (refer to Appendix L). A careful look at the text reveals that there are only eight occurrences of the phoneme /v/ in the whole text. Three out of eight words have the TL phoneme /v/ occurring in initial position of the word while 62.5 % occurs in the medial position and there is only one in final position. From the overall results of the subjects' performance of phoneme /v/, it seems that the Malaysian subjects have problems with it particularly with the one which occurs in final position. One possible explanation to account for the lower index score in the performance of S14, S15 S17 and S20 in word list reading compared with dialogue reading is that the word list contains more instances of final phoneme /v/ than in dialogue reading. This gives rise to an irregular pattern in the subjects' performance in both tasks.

6.1.4 Stylistic Patterning of Phoneme /r/

The subjects' performance in the target phoneme /r/ produces the most interesting result of all. The index score for phoneme /r/ produces the most irregular pattern and contradicts the predicted pattern of style shifting based on the 'attention to speech' dimension. Fig. 5.4. demonstrates this irregular pattern of stylistic ranking. An interesting pattern of stylistic stratification is observed in the subjects' speech performances particularly in the reading of minimal pairs. 43.33 % of the subjects record low index scores in the task, contradicting the regular pattern of stylistic ranking. In some cases, the subjects (S13, S17, S18, S20, S21, S22 and S26) record the lowest index scores in their minimal pairs reading. A possible explanation for this irregularity may be due to phonological transfer from *Bahasa Malaysia* (Malay language) to the subjects' interlanguage (English). The subjects seem to employ the most accurate or correct variant of the *Bahasa Malaysia* phoneme /r/ (but distant from the TL phoneme) in their interlanguage when they approach formal tasks such as minimal pairs and word list reading. It should be noted here that in *Bahasa Malaysia* the accurate TL phoneme /r/ takes the form of a trill irrespective of its position in Malay words (Alias Mohammad Yatim, 1992, p 23) e.g. 'rumah' (house), 'terbang' (fly) and 'ular' (snake) which are pronounced as [rumah], [tərbaŋ] and [ular] respectively. Perhaps another explanation could be due to over consciousness on the subjects' part when aiming to produce the English [ɹ] resulting in the production of a trill [r].

A closer look at the data reveal that these subjects come from either a Chinese (S13, S17, S18, and S20) or an Indian (S21, S22, and S26) backgrounds. In the opinion of the researcher, though these subjects come from non-Malay ethnolinguistic background, their use of [r] can be explained if one looks at the present language situation in Malaysia. With the introduction of standard

pronunciation in *Bahasa Malaysia*, the learners will have to make an effort to pronounce all the phonemes contained in Malay words. In should be noted here that standard pronunciation was introduced in Malaysia as an effort to standardise the relationship between the graphemes and phonemes of the Malay words. Thus, in the word 'ular' (snake), the Malaysian learners are expected to pronounce the word as it is spelled i.e. [ular]. It should also be mentioned here that the Malaysian learners are expected to use the standard pronunciation in their *Bahasa Malaysia* oral examination in all the Malaysian public examinations and a pass in the subject is compulsory if a candidate is to pass in the overall examination. It seems that the learners or speakers of *Bahasa Malaysia* who come from other ethno-linguistic backgrounds will have to make an extra effort to produce the target phoneme /r/ of *Bahasa Malaysia* compared to their Malay counterparts. As a result, when they perform in their English interlanguage, they transfer the IL phonology of Bahasa Malaysia to English. In a way, this finding seems to be similar to the one noted by Beebe (1980) in her study on the speech performance of Thai learners of English i.e. the subjects used more prestige L1 variants [r] in their careful IL style. As Beebe points out, the level of correctness in the subjects' performance in a formal task (e.g. reading of word list) in the TL depends on the social meaning of the variable in the native language. (see Section 2.4 for details).

Irregularity is also observed in the subjects' performance of /r/ in dialogue reading where the index score is higher than that of word list reading. This is evident in the recordings of S4, S19, S20 and S25. In most cases the difference is minimal i.e. from 0.18 (S4) to 1.49 (S20) with the exception of S25 who produces the difference of 4.16. As for S4, a close look at the recording reveals that the subject read the dialogue at a very slow pace giving him more time to attend to his speech. As for the other subjects, again a possible explanation may lie in the language transfer from *Bahasa Malaysia* to the subjects' interlanguage. It should also be pointed out here that all in all, the subjects record overall high index scores

for this particular phoneme across the four verbal tasks. Even for free conversation the mean score is relatively high (i.e. 85.06) compared to some other phonemes.

To sum up, the overall result of the subjects' performance of phoneme /r/ does not seem to produce the normal pattern of stylistic ranking across the four verbal tasks. In some cases the result produces a contradictory pattern of stylistic ranking with minimal pairs recording the lowest index score of all. In other cases word list reading records lower index scores than that of dialogue reading. It seems that the result of subjects' performance in the target phoneme /r/ does not follow the normal stylistic ranking as predicted by the 'attention to speech' hypothesis. As suggested above, some of the subjects in this study use the accurate variant [r] of *Bahasa Malaysia* in their performance of the TL /r/ in the formal task (i.e. minimal pairs) resulting in the lowest index scores in the task.

6.1.5 Stylistic Patterning of the Final Stops /p, b, t, d, k, g/

The overall pattern of subjects' performance of the final stops seem to follow the normal regular pattern of stylistic ranking i.e. the highest index score in the reading of minimal pairs, followed by word list reading, then dialogue reading and finally free conversation.

As far as the target phoneme /p/ is concerned, the overall patterning of the slope indicates a downward movement (i.e. descending pattern) as the subjects move from minimal pairs and word list reading to dialogue reading and finally free conversation. Fig. 5.5 illustrates this regular pattern of stylistic ranking. However, an irregularity is observed especially in the performance of some subjects (63.33 %) in free conversation where their index score is higher than that of dialogue reading. A closer look at the data reveals that only a limited amount of data are recorded in

the subjects' performance in free conversation and where it occurs the subjects seem to produce variants which are closer to TL variants resulting in a higher index score. Thus it seems that this irregular pattern in the subjects' performance in free conversation may be due to inadequate data.

As regards phoneme /b/, a regular pattern of stylistic ranking is also observed across the four verbal tasks, that is the highest index score occurs in the reading of minimal pairs, followed by word list, then dialogue reading and finally free conversation. However, in some cases, irregular pattern of stylistic ranking occurs in free conversation due to lack of data. This is illustrated by Fig. 5.6.

The target phoneme /t/, also shows an overall downward slope of the line indicating the predicted layer of style shifting across the four verbal tasks (see Fig. 5.7). The only exception to this regular patterning of variants is in the performance of S3 where the subject seems to perform better in free conversation than in dialogue reading with the index score for free conversation slightly higher than that of dialogue reading.

As for the target phoneme /d/, another regular pattern of style shifting is observed in the performance of the subjects across the four verbal tasks. Fig. 5.8 shows a progressively downward slope as the subjects approach the different tasks which require a different degree of attention to be paid to their speech performance.

The same kind of regular patterning is also found in the subjects' performance of phoneme /k/. Fig. 5.9 shows the same downward movement of slope as the subjects move from minimal pairs reading to word list reading then to dialogue reading and finally the free conversation.

Finally, the subjects' linguistic behaviour in the production of phoneme /g/ also produces the overall downward movement of slope reflecting the regular patterning of stylistic ranking across the four verbal tasks. However, as phonemes /p/ and /b/, this phoneme also suffers from lack of data in some of the subjects' speech performance in free conversation resulting in an irregular patterning of stylistic ranking (see Fig. 5.10).

To sum up, the overall result of the subjects' performance of the phonemes under investigation as demonstrated by the slopes of figures 5.1 to 5.10 seems to produce the predicted ranking of style shifting across the four different verbal tasks, that is the highest index score in the reading of minimal pairs, followed by word list reading, then dialogue reading and finally free conversation which records the lowest index score of all. The only exception to this regular patterning is in the subjects' performance of phoneme /v/ and /r/. As mentioned above, a possible explanation for the irregularity in the subjects' performance of phoneme /v/ lies in the text of dialogue reading itself which does not contain adequate data. The same applies to the subjects performance in free conversation of the phonemes /p/, /b/ and /g/. Of all the phonemes under investigation, phoneme /r/ shows the most contradictory result with some subjects producing the reverse pattern of stylistic ranking. As suggested in Section 6.1.4, one possible explanation that the writer can offer for this strange phenomenon is that it is due to phonological transfer from *Bahasa Malaysia* to English.

From an observation of the overall result of subjects' performance of most of the phonemes investigated in this study, it seems to the writer that the difference in the subjects' linguistic behaviour in most of the target English phonemes might be explained in terms of the 'attention to speech' dimension. This is reflected in the subjects responses to different verbal tasks which represent different contexts of situation ranging from the most formal to the most casual form of speech styles. In

cases where it does not work it may be due to other factors such as inadequate data for comparison (for phoneme /v/, /p/, /b/ and /g/) or phonological transfer from *Bahasa Malaysia* to English (for phoneme /r/).

A statistical test on the data was carried out in order to confirm the results of this study. This is to find out whether the difference in the subjects' performance mentioned above is significantly different in statistical terms. An expert on statistics from the University of Leeds was consulted in order to ascertain the most suitable statistical test to be carried out. Due to the nature of the data and the experimental problems of this study, i.e. where the same subjects are tested under a number of different conditions or treatments, it is thought that the most suitable design for this data would be a Repeated Measurement of Analysis of Variance (ANOVA). Under this design, the performance of the same subjects under different conditions are repeatedly measured. There are many advantages of using this design. As Ferguson and Takane (1989, p 348) state:

> The measurements obtained under the different treatment conditions will in many experiments be highly correlated since they are made on the same subjects. The presence of these correlations will reduce the error term. Another advantage resides in the number of subjects. It may be more economical in terms of time and effort to test the same subjects under each treatment. A further point here is the nature of certain experimental problems demands the use of repeated-measurement designs.

The data obtained from this study were analysed using the SPSS statistical software package. The significant value for the test design is $p < .01$ which means any value which is lower than .01 is regarded to be significant.

The computational analysis of the overall results suggests a significant difference in performance of the subjects for all the phonemes under investigation across the treatments (i.e. verbal tasks). The statistical results of all the phonemes

under investigation show a value of p= .000, statistically significant at $p < .001$ (for details refer to Appendices A - K). This indicates that there is a significant difference in the performance of the subjects as they approach the different verbal tasks i.e. minimal pairs reading, word list reading, dialogue reading and free conversation.

Table 6.1 below summarises the statistical results of all the phonemes under investigation.

Table 6.1 Summary of the Statistical Result for all the Phonemes

Phonemes	F Values within Tests
/θ/	F=2.66.00 (p = .000)*
/ð/	F=300.15 (p = .000)*
/v/	F=149.03 (p = .000)*
/r/	F=7.01 (p = .000)*
/p/	F=40.51 (p = .000)*
/b/	F=66.80 (p = .000)*
/t/	F=270.43 (p = .000)*
/d/	F=783.92 (p = .000)*
/k/	F=569.12 (p = .000)*
/g/	F=104.65 (p = .000)*

Notations:

*Statistically significant ($p < .001$)

6.2 Linguistic Patterning of the Phonemes

As pointed out in the above section, the subjects' speech performance is variable. This variability seems to be the product of subjects' responses to different verbal tasks representing different contexts of situation measured on the 'attention to speech' dimension. As the results reveal, the subjects record overall higher index scores in tasks which require greater attention to be paid to speech , an indication of their use of accurate variants or variants which are closer to the TL phoneme. On the other hand, the subjects record a lower index score in tasks which require less attention be paid to speech reflecting their use of variants which are more distant from the TL phoneme. This suggests that the subjects' use of variants corresponds with the different nature of the verbal tasks the subjects are engaged in. The results also indicate that the subjects' speech variability is not only the product of their responses to different verbal tasks but also to various linguistic environments. This is particularly true if one looks from the perspective of the relative positions of the phonemes in the word. This section attempts to discuss the patterning of variants produced by the subjects according to the relative positions of the phonemes under investigation in English words.

6.2.1 Linguistic Patterning of Phoneme /θ/

As far as the target phoneme /θ/ is concerned, about 76.67 % of the subjects produce the accurate [θ] in their reading of minimal pairs irrespective of its position in the word. However as the subjects move to the reading of the word list, they begin to employ some other variants such as [t̪^{h}] in initial position of the word. About 23.33 % of the subjects pronounce the word 'thunder' as [t̪^{h}ʌndə]. Only one subject (S26) uses [t̪] in his pronunciation of the word 'thanks'. A closer look at the

data reveal that the subject comes from an Indian background. The subjects in this study also seem to have difficulty in pronouncing the word 'lethal'. Only 36.67 % of the subjects pronounce the word accurately. The rest use either [ð] or [t̪] instead of [θ]. Though most of the subjects do not display any problem with /θ/ in word final position in their reading of minimal pairs, they seem to show a different pattern in their word list reading. Some of the most common variants that they use for /θ/ in word final position include [tθ], [t̪] and [t]. In dialogue reading, the subjects use more variant [t] in word initial position. Some of the subjects use [f] in word medial position, for example in the word 'birthday'. Some word final variants produced by the subjects in dialogue reading are [s̪] ,[s]and [tˀ]. This is demonstrated as the subjects attempt to pronounce the words 'Edith' , 'Smith' and 'moths'. As the subjects engage themselves in free conversation, they employ more and more word initial [t̪] and [t] variants in their speech.

6.2.2 Linguistic Patterning of Phoneme /ð/

About 46.67 % of the subjects use the accurate variant [ð] in their production of target phoneme /ð/ in the reading of minimal pairs irrespective of its position in the word. In cases where it is not so, the most common variants used by the subjects include [d̪] and [d] word initial and [θ] word final. The same variants are also found in the subjects' speech performance in word list reading. In this task, most of the subjects seem to use variant [θ] instead of [ð] in word final position though a small number of them use variants [f] and [d̪] word final. The same thing happens in dialogue reading though some other variants are also found word final such as [ʔ], [dˀ], [tˀ] and [z]. This is clearly demonstrated in the subjects' pronunciation of the words 'with' and 'clothe'.

A comparison of the subjects' pronunciation of the words 'clothe' and 'with' could be made across the different verbal tasks. 86.66 % of the subjects pronounce the word 'with' accurately in their reading of minimal pairs while the rest of the subjects pronounce the word with variant [θ]. In word list reading, 53.33 % of the subjects produce the accurate pronunciation of the word with the final [ð̩] while 40 % use [θ] instead. The remaining two subjects S7 and S8 use [s̩] and [d̩] respectively. Finally in dialogue reading, only one subject (S20) pronounces the word accurately. The majority (73.33 %) of the subjects pronounce it with variant [θ]. Two subjects (6.67 %) use variant [ʔ] while the others S19 and S21 use [s] and [tˀ] respectively.

For the word 'clothe', comparison could only be made between word list reading and dialogue reading. 50.00 % of the subjects produce accurate pronunciation of the word in word list reading while only two subjects pronounce the word accurately in dialogue reading.. Half (50.00 %) of the subjects in this study use variant [ʔ] in their pronunciation of the word 'clothe' in dialogue reading while the rest use [tˀ] and [dˀ]. Only one subject (S4) uses variant [z] in place of the accurate variant [ð̩].

6.2.3 Linguistic Patterning of Phoneme /v/

For the target phoneme /v/, about 76.67 % of the subjects produce the accurate variant [v] in their speech performance in minimal pairs reading. Two subjects (S27 and S29) use about 50.00 % of variant [ʋ] in their reading of minimal pairs and both the subjects come from an Indian background. However it should be noted here that all the words in the minimal pairs have phoneme /v/ word initial only. As a result comparison of subjects' performance of the target phoneme /v/ in the four different verbal tasks in relation to word positions is not possible. In word

list reading, however, most of the subjects seems to have difficulty in pronouncing [ɣ] in word final position. Most of them tend to use [f] instead. Thus words such as 'five', 'arrive' and 'twelve' are pronounced as [faif], [əraif] and [twɛlf] respectively. This is more widespread in free conversation. Another variant /ʊ/ is also found in the speech performance of some subjects especially those who come from an Indian background. One Indian subject particularly S27 admits that she has a problem in pronouncing English phoneme /v/ and from the recording of her minimal pairs reading, there seems to be some kind of self correction from time to time. It should be stressed here that though some Indian subjects exhibit the use of variant [ʊ] in their speech performance, one cannot overgeneralise this as confined to the Indian subjects only because there are also other subjects in this study who come from the same background who can pronounce the English phoneme /v/. The use of variant [ʊ] is also found in the speech performance of subjects who come from Malay and Chinese backgrounds. This is found in the performance of most of the subjects in this study particularly in dialogue reading and free conversation irrespective of their ethno-linguistic backgrounds.

6.2.4 Linguistic Patterning of Phoneme /r/

As regards the target phoneme /r/, nearly half of the total number of subjects produce accurate English [ɹ] in their reading of minimal pairs. Most of the subjects seem to produce the accurate variants [ɹ̥] and [ɹ̥̊] after the plosives /b, d/ and /p, t/ respectively. However some subjects produce voiced alveolar trill [r] in place of English post-alveolar approximant [ɹ]. As explained in Section 6.1.4, the writer feels that one possible explanation for this is the transfer of phonology from *Bahasa Malaysia* to English. Some other variants produced by the subjects in their speech performance include [ɻ], [ɾ] and [w]. As explained in section 6.1.4 the subjects

record relatively high index scores in their performance of the target phoneme /r/ across the four verbal tasks.

6.2.5 Linguistic Patterning of The Final Stops /p, b, t, d, k, g/

In general, most of the subjects in this study produce accurate variants of English final stops. In their production of voiceless final stops some subjects produce aspirated variants i.e. [p^h, t^h , k^h]. However as the subjects move to other verbal tasks such as dialogue reading and free conversation, they use more unreleased variants [p̚, b̚, t̚, d̚, k̚, g̚] in their speech performance.

For the phoneme /p/, most subjects use the released variants in their minimal pairs and word list reading with a few cases of [p^h] and [p]. However in both dialogue reading and free conversation, [ʔ] is also found. In their attempt to produce the voiced counterpart in the reading of minimal pairs and word list, some subjects seem to be over-conscious in their speech, using variants such as [bə] and [b̥ə] . The unreleased variant [b̚] is more common in subjects performance in dialogue reading and free conversation. Some subjects however, produce the voiceless variants instead of the target [b̥].

The same goes with the subjects production of /t/ and /d/. For the phoneme /t/, a high occurrence of variants [t] [t̪] and [t^h] is found in the subjects' performance in minimal pairs and word list reading. However as the subjects move to dialogue reading and free conversation, they use more of the unreleased variant [t̚] and other variants such as [t^j], [ʔ]. Some subjects particularly those who come from an Indian background, use the retroflex variants [ʈ] and [ʈ̚]. For the target phoneme /d/, most of the subjects use the devoiced variant [d̥] in their reading of minimal pairs and word list reading. Like the target phoneme /b/ some subjects, however, show some kind of over consciousness in producing the English /d/ by

using variants such as [də] and [d̥ə]. The occurrence of the unreleased variant and the voiceless variants is much higher as the subjects involve themselves in dialogue reading and free conversation. As with the phoneme /t/, some Indian subjects use the retroflex variant [ɖ˗] in place of the target [d̥].

Finally, the same pattern also exists in the subjects' performance of phonemes /k/ and /g/. The subjects use a high percentage of accurate variants such as the released [k] and devoiced [g̊] in their performance of minimal pairs and word list reading. Other variants such as [k^h], [ʔ] are also found in the subjects' speech. Like the other voiced stops under investigation, the subjects also seem to exhibit over-consciousness in their attempt to produce the correct target phoneme /g/ particularly in minimal pairs and word list reading. As usual the subjects use variants followed by a schwa [ə] and some of the subjects employ the voiceless variants in their speech performance in word list reading and free conversation.

To sum up, most of the Malaysian subjects in this study produce accurate released plosives in minimal pairs and word list reading. However, as they engage themselves in dialogue reading and free conversation, they use more unreleased variants. So it is not true to generalise that Malaysian learners of English produce [ʔ] or unreleased variants for the final plosives as reported by some writers. The results of this study reveal that Malaysian subjects do not always produce [ʔ] or unreleased variants of /p, b, t, d, k, g/ in final position. It seems that the production of final stops depends to a great extent on the nature of the task in which the subjects are involved.

6.3 Group Performance across the Four Different Verbal Tasks

One of the objectives of this investigation is to establish whether there is any difference in the performance of the subjects across the three different ethnolinguistic backgrounds viz. Malay, Chinese and Indians.

One of the ways of establishing the above objective is to look at the mean score of subjects' performance of all the phonemes under investigation across the four verbal tasks. **Tables 6.2** to **6.11** below present the subjects' mean scores across the four verbal tasks and across the three different ethnolinguistic groups.

Table 6.2 Group Mean Scores for Phoneme /θ/

	mp	wl	dr	fc
G1	100.00	97.72	90.83	68.35
G2	98.69	94.33	83.12	56.03
G3	94.94	87.39	71.01	47.63

Table 6.3 Group Mean Scores for Phoneme /ð/

	mp	wl	dr	fc
G1	96.26	93.08	84.83	66.61
G2	96.21	93.24	81.94	64.68
G3	94.79	91.58	77.00	63.39

Table 6.4 Group Mean Scores for Phoneme /v/

	mp	wl	dr	fc
G1	99.00	90.71	86.43	69.58
G2	99.00	90.00	84.82	66.52
G3	92.29	88.86	79.97	56.04

Table 6.5 Group Mean Scores for Phoneme /r/

	mp	wl	dr	fc
G1	97.86	95.24	86.32	80.54
G2	82.71	92.57	91.01	89.87
G3	90.14	98.48	95.42	84.77

Table 6.6 Group Mean Scores for Phoneme /p/

	mp	wl	dr	fc
G1	89.67	80.37	62.33	67.00
G2	81.89	78.89	65.11	68.69
G3	83.45	80.51	64.22	67.81

Table 6.7 Group Mean Scores for Phoneme /b/

	mp	wl	dr	fc
G1	96.45	91.52	73.07	50.27
G2	82.00	73.34	59.52	56.07
G3	96.06	88.89	71.97	56.78

Table 6.8 Group Mean Scores for Phoneme /t/

	mp	wl	dr	fc
G2	91.67	83.48	61.28	49.28
G2	89.13	81.38	61.48	49.58
G3	93.73	84.52	60.86	51.20

Table 6.9 Group Mean Scores for Phoneme /d/

	mp	wl	dr	fc
G1	98.53	96.44	41.48	22.10
G2	93.42	88.28	38.94	22.06
G3	95.68	90.18	42.83	26.99

Table 6.10 Group Mean Scores for Phoneme /k/

	mp	wl	dr	fc
G1	92.00	88.44	63.69	24.17
G2	89.75	88.33	70.96	28.45
G3	92.50	88.83	68.75	38.41

Table 6.11 Group Mean Scores for Phoneme /g/

	mp	wl	dr	fc
G1	96.67	94.27	77.43	26.12
G2	86.60	81.66	69.39	36.32
G3	96.73	96.71	80.48	65.32

Notations:

G1 - Group 1 (Subjects who come from Malay background)
G2 - Group 2 (Subjects who come from Chinese background)
G3 - Group 3 (Subjects who come from Indian background)

To illustrate the findings of the group performance across the four verbal tasks, multiple column graphs are used. Figures 6.1 to 6.10 below illustrate the group performance of all the phonemes under investigation. The shading of the columns in the boxes represents the three different groups with G1, G2 and G3 representing subjects who come from Malay, Chinese and Indian backgrounds respectively and the height of the columns indicates the mean scores for each group.

Fig. 6.1 Patterns of Group Performance of Phoneme /θ/

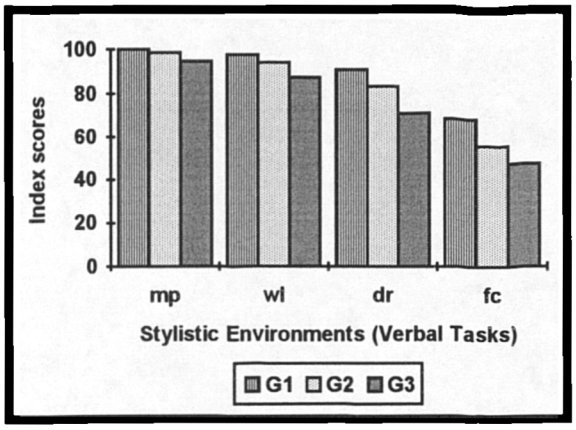


Fig. 6.2 Patterns of Group Performance of Phoneme /ð/

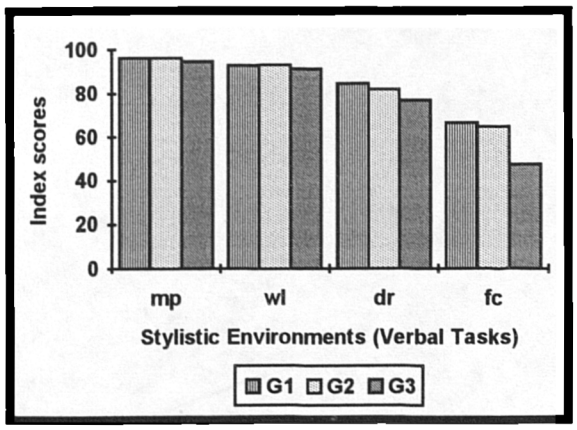


Fig. 6.3 Patterns of Group Performance of phoneme /v/

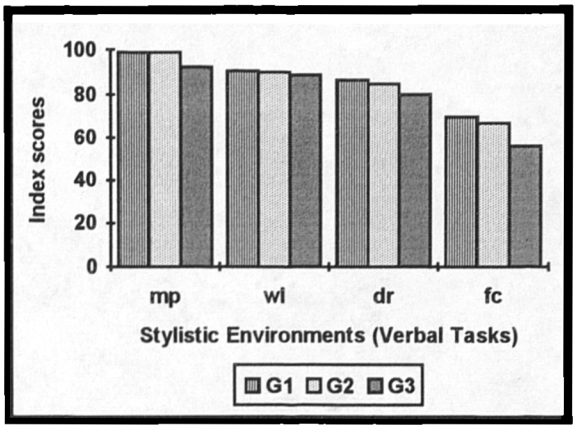


Fig. 6.4 Patterns of Group Performance of Phoneme /r/

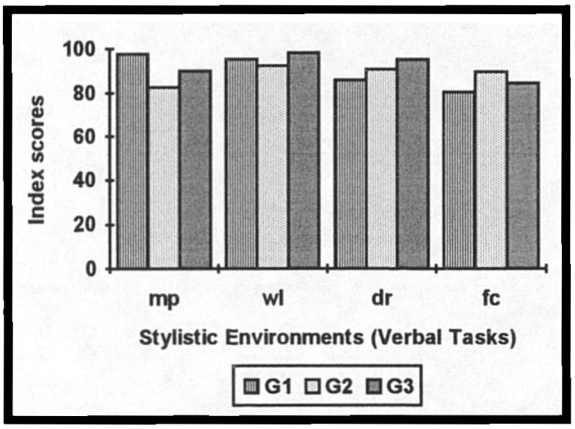


Fig. 6.5 Patterns of Group Performance of Phoneme /p/

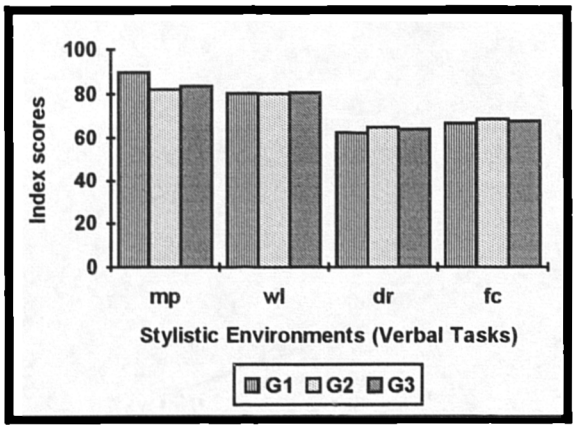


Fig. 6.6 Patterns of Group Performance of Phoneme /b/

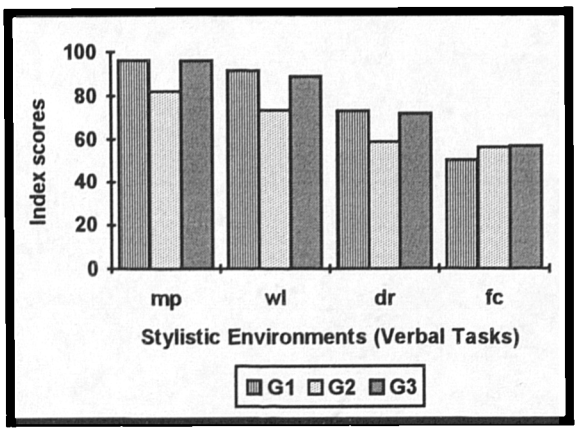


Fig. 6.7 Patterns of Group Performance of Phoneme /t/

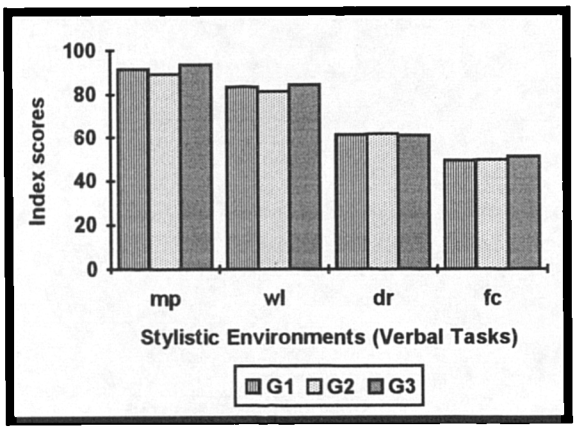


Fig. 6.8 Patterns of Group Performance of Phoneme /d/

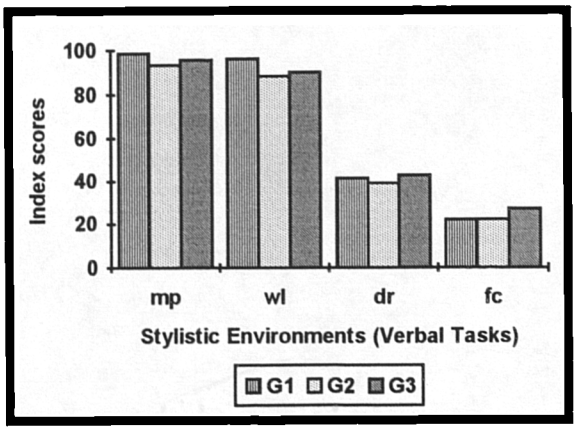


Fig. 6.9 Patterns of Group Performance of phoneme /k/

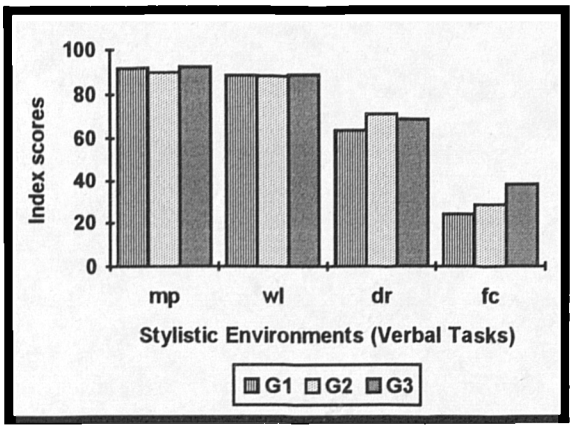
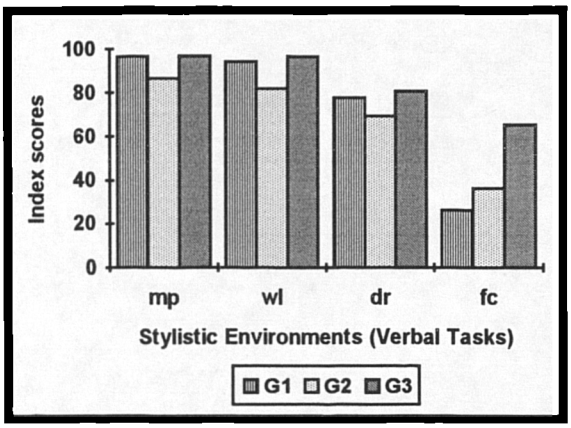


Fig. 6.10 Patterns of Group Performance of Phoneme /g/



For the target phoneme /θ/, subjects who come from a Malay background (G1) record the highest mean scores in their speech performance across all the verbal tasks. This is followed by subjects who come from a Chinese background (G2) and finally those who come from an Indian background (G3). This pattern follows the same trend in the group performance across the four different verbal tasks. In the reading of minimal pairs, the difference between mean scores of subjects who come from the Malay and the Chinese backgrounds is rather minimal, i.e. 1.31, while the difference between the highest mean score (G1) and the lowest mean score (G3) in the task is 5.06. As the subjects move to other tasks the

difference in the mean scores becomes greater. In word list reading, the difference in mean scores between G1 and G2 is 3.39 while G1 and G3 is 10.33. In dialogue reading, the difference between G1 and G2 is 7.71 while between G1 and G3 it is 19.82. Finally in free conversation the difference in the mean scores between G1 and G2 is 12.32 and between G1 and G3 it is 20.72. From the overall performance of the subjects across the three different groups, it seems that of all the groups, G1 (subjects who come from a Malay background) seems to perform better than the other two groups in their production of the target phoneme /θ/ while G3 (subjects who come from an Indian background) is the lowest in the rank.

The subjects' performance of phoneme /ð/ follows the same trend as its voiceless counterpart, only this time the mean difference between G1 and G2 is very minimal. For instance, in the reading of minimal pairs the mean difference is 0.05 and the mean differences in word list reading, dialogue reading and free conversation are 0.04, 2.89 and 1.93 respectively. Even the mean difference between G1 and G3 is not as great as with phoneme /θ/. The mean differences between G1 and G3 in the reading of minimal pairs, word list reading, dialogue reading and free conversation are 1.47, 1.5, 7.83 and 3.22 respectively. It seems here that there is not much difference in the performance of the subjects across the three groups. It also seems that the Malay subjects perform better in their production of voiceless dental fricative than in the voiced one.

For phoneme /v/, again G1 and G2 record greater mean scores than G3 across all the verbal tasks. As the other two phonemes above, the difference in the performance of the subjects who come from G1 and G2 is minimal. Subjects from both G1 and G2 record mean scores of 99.00 in their minimal pairs reading. The mean difference between G1 and G3 in the same task is 6.71. However in word list reading, the difference between the highest (G1) and the lowest (G3) scores is only 1.85. As the subjects move to dialogue reading and free conversation, the mean

difference between G1 and G3 becomes greater i.e. 6.64 and 13.54 respectively. The results of subjects' performance of phoneme /v/ indicates that subjects who come from an Indian background do not seem to perform as well as their counterparts in the other two groups. The most common variants used by the Indian subjects in their dialogue reading and free conversation is [ʋ] . It should also be mentioned here that this particular variant is also present in the speech performance of the subjects who come from Malay and Chinese backgrounds especially in dialogue reading and free conversation.

As mentioned in Section 6.1, subjects' performance of phoneme /r/ reveals the most interesting results. From the group mean scores, G1 seems to be the only group which produced the predicted stylistic ranking according to the Labovian 'attention to speech' dimension. Though the results indicate an overall declining pattern of the subjects' speech performance across the different tasks, the other two groups (G2 and G3) record a lower mean score in minimal pairs reading than in word list reading. As mentioned in section 6.2, this happens because some subjects who come from these groups use [r] instead of the accurate target variant [ɹ] . As explained in Section 6.1.4 this may be the result of phonological transfer from *Bahasa Malaysia* to English.

For the final stops, an interesting observation is made on the subjects' performance of all the voiced final stops /b, d, g/. Subjects who come from Chinese background record the lowest mean score particularly in their production of phonemes /b/ and /g/. In most cases, the difference in the lowest mean scores compared with the highest scores across the verbal tasks is well above 10.00 with the exception of the subjects' performance in free conversation where the difference in the mean scores is minimal. Some subjects in this group display some kind of over-consciousness on their part when they produce the voiced final stops particularly in both minimal pairs and word list reading. They seems to indicate

over-attention to their speech in the performance of all the voiced phonemes mentioned. The most common variant produced by them is the variant with a vocalic release [ə]. There seems to be not much difference in the performance between the other two groups (G1 and G3) across the four different verbal tasks and across all the final stop phonemes under investigation. Both groups record a minimal difference in their mean scores across all the tasks.

To sum up, comparisons based on subjects mean scores reveal that there is not much difference in the overall performance of the subjects who come from different ethnolinguistic backgrounds across all the verbal tasks and across all the phonemes under investigation. Some of the differences observed include relatively lower mean scores in the performance of subjects who come from an Indian background in their production of phonemes /θ/ and /v/. And finally the Chinese subjects record the lowest mean scores in their production of voiced final stops in most of the verbal tasks particularly in their production of phoneme /b/ and /g/ where the mean difference between the highest and the lowest scores is greater than 10.00.

A statistical test on the group performance of all the phonemes under investigation was carried out to confirm the above results. This is to find out whether some of the differences in the group performance mentioned above are significantly different in statistical terms. The computational analysis of the overall results indicates that there is no significant difference in the performance of the subjects who come from different ethnolinguistic backgrounds i.e. Malays, Chinese and Indians. The results for most of the phonemes under investigation show 'p' values of greater than .01 indicating statistically no significant difference. The only exception to this is the group performance of phonemes /θ/ and /g/ which show the significant values of F=15.20 (p= .000) and F= 8.67 (p= .002) respectively. This

suggests that there are significant differences in the group performance of phonemes /θ/ and /g/. As mentioned above, subjects who come from a Malay background (G1) records the highest mean scores in their speech performance of phoneme /θ/ across all the verbal tasks. This is followed by subjects who come from a Chinese background (G2) and finally those who come from an Indian background. For phoneme /b/, the results suggest that subjects who come from an Indian background (G2) produce the highest index scores in their production of the phoneme across all the verbal tasks. This is followed by the Malay subjects (G1). Finally subjects who come from a Chinese background (G3) record the lowest mean score in their production of the phoneme across all the verbal tasks. **Table 6.12** summarises the statistical results of group performance for all the phonemes under investigation.

Table 6.12 Summary of Statistical Results of Group Performance for all the Phonemes

Phonemes	F Values between Groups
/θ/	F=15.20 (p = .000)*
/ð/	F=3.50 (p = .045)
/v/	F=2.89 (p = .073)
/r/	F=.06 (p = .476)
/p/	F=.16 (p = .852)
/b/	F=4.50 (p = .026)
/t/	F=.37 (p = .691)
/d/	F=1.67 (p = .206)
/k/	F=3.46 (p = .046)
/g/	F=8.67 (p = .002)**

Notations:

*Statistically significant ($p < .001$)
**Statistically significant ($p < .01$)

Chapter 7

Conclusion

7.1 Summary

The overall results of the subjects' performance of all the phonemes under investigation reveal that there is phonological variation in the speech of Malaysian learners of English and this variation is not at all random but rather systematic in nature. The speech performance of the Malaysian subjects in this study is responsive to the nature of the verbal tasks they are engaged in and in their production of most of the target English phonemes they produce the predicted ranking of style shifting according to the Labovian 'attention to speech' hypothesis. As the results reveal, in most cases the subjects in this study record the highest index scores in the reading of minimal pairs. This is followed by word list reading, then dialogue reading and finally free conversation which records the lowest index scores of all. The only exception to this regular patterning is in the subjects' performance of the phonemes /v/ and /r/. As mentioned in section 6.1, a possible explanation for the irregularity in the subjects' performance of phoneme /v/ lies in the text of the dialogue reading itself which does not contain adequate data. The same applies to the subjects' performance in free conversation of the phonemes /p/, /b/ and /g/ where in some

cases, data was not available in the subjects' speech. Phoneme /r/ shows the most contradictory result with some subjects producing the reverse pattern of stylistic ranking i.e. the highest index scores in free conversation, followed by dialogue reading then word list reading and finally minimal pairs reading which records the lowest index scores of all. As explained in Section 6.1.4 one possible explanation that the researcher can offer for this strange result is that this may be due to phonological transfer from *Bahasa Malaysia* to subjects' interlanguage (i.e. English).

Though the results of this study show some irregularities in the subjects' speech performance of some of the phonemes under investigation, the overall results indicate that there exists some systematic patterning in the subjects' performance across the four different verbal tasks. The overall index scores show a progressive decline in the subjects' performance as they move from one task to another, i.e. the reading of minimal pairs, word list reading, dialogue reading and free conversation respectively. This variability in the subjects' speech performance is a clear indication of the product of their responses to different verbal tasks representing different contexts of situation ranging from the most formal to the most casual form of speech styles measured on the 'attention to speech' dimension. The subjects in this study record overall higher index scores in tasks which require greater attention to be paid to speech, an indication of their use of accurate variants or variants which are closer to the TL phoneme. On the other hand, the subjects record lower index scores in tasks which require less attention to be paid to speech reflecting their use of variants which are more distant from the TL phonemes. This is supported by statistical results which show overwhelming values of $p = .000$, statistically significant at $p < .001$ for all the phonemes under investigation, indicating that there is significant difference of the subjects' performance of all the phonemes under investigation across all the four verbal tasks. It seems to the researcher that this systematic variation in the subjects' linguistic behaviour across all the verbal tasks

and across most of the phonemes under investigation suggests that 'attention to speech' could be used to account for the difference in the overall subjects' speech performance. In cases where it does not work it may be due to other factors such as phonological transfer from L1 or inadequate data for comparison. To sum up, the researcher feels that though 'attention to speech' could be used to account for variability in the subjects' speech performance of most of the TL phonemes under investigation, it cannot adequately explain variability in the subjects' speech performance of the TL phoneme /r/.

The results of this study also suggest that the subjects' speech variability is also the product of their responses to the relative positions of the phonemes under investigation in English words. An interesting observation is made on the subjects' production of the target phonemes in relation to their positions in words. It is discovered that their production of those phonemes also corresponds with the nature of the verbal tasks they are engaged in. For instance, in their production of the target phoneme /ð/, about half of the subjects in this study produce the accurate variant [ð] in their reading of minimal pairs irrespective of its position in the word. However, as they move to word list reading most of them use variant [θ] instead of [ð̩] in word final position. The same happens in dialogue reading and free conversation though some other variants are also found word final such as [ʔ], [dˀ], [tˀ] and [z]. This is clearly exhibited in the subjects' pronunciation of the word 'with' where 88.66 % of the subjects pronounce the word accurately in their reading of minimal pairs while the rest of the subjects pronounce the word with variant [θ]. However, as the subjects move to word list reading, about half of them produce the accurate pronunciation of the word with final [ð̩] while the rest use [θ] instead. Two subjects use [s̪] and [z̪]. Finally in dialogue reading, only one subject pronounces the word accurately. The majority of them use variant [θ] in their pronunciation of the word 'with' while only a very small number (four) use other variants such as [ʔ], [s] and [z]. This is also true with the final stops where the

subjects in this study produce accurate released plosives in their minimal pairs and word list reading but when they engage themselves in dialogue reading, they use more unreleased variants. It seems that though the subjects' speech performance is also sensitive to the positions of the phonemes in the words, their production of those phonemes seems to be governed by the nature of the verbal tasks they are involved in. Thus, in formal tasks such as minimal pairs and word list reading, the subjects use accurate variants or variants which approximate the TL sounds and when the subjects change their tasks from formal to casual such as in free conversation, they shift their style away from the formal style to the casual style resulting in the use of a high proportion of variants which are distant from the TL sounds.

One of the main objectives of this study is to see whether subjects who come from different ethnolinguistic backgrounds produce differences in their speech performance across the four verbal tasks. Comparisons based on subjects' mean scores reveal that there is not much difference in the overall performance of Malaysian subjects who come from different ethnolinguistic backgrounds across all verbal tasks and across all the phonemes under investigation. However some of the differences are observed in the group performance of phoneme /θ/ where the results indicates that subjects who come form a Malay background produce the highest mean scores across all the verbal tasks. This is followed by subjects who come from a Chinese background and finally those who come from an Indian background record the lowest mean scores of all. The results also show that the Malay subjects perform better in their production of the voiceless dental fricative than the voiced version. Other differences which are observed include relatively lower mean scores in the performance of the subjects who come from an Indian background in their production of phoneme /v/ across all the verbal tasks. The results also reveal that some of the Indian subjects in this study use variant [ʋ] in their minimal pairs and word list reading. However, as mentioned in Section 6.3, this particular variant is

also present in the speech performance of subjects who come from Malay and Chinese backgrounds particularly in dialogue reading and free conversation. Finally, for the final stops, subjects who come from a Chinese background record the lowest mean scores particularly in their production of the voiced final stops /b/ and /g/ compared to the other two groups. Some of the subjects in the group display some kind of over-consciousness when they produce the voiced final stops particularly in minimal pairs and word list reading. The most common variant produced by them is a variant which is followed by a schwa [ə]. It seems that this incident reinforces the idea that as the subjects are involved in tasks which require greater attention to be paid to their speech, they make a conscious effort to produce the accurate TL variants. Sometimes in their efforts to do so they tend to over attend to their speech resulting in the production of inaccurate TL variants.

Statistical analysis shows that there is no significant difference in the group performance of most of the phonemes under investigation where the 'p' values are higher than .01. The only significant differences in statistical terms are recorded in the group performance of phonemes /θ/ and /g/ which show the value of p= .000 and p= .002 respectively.

7.2 Pedagogical Implications

The results of this study have important pedagogical implications for English language teaching in Malaysia, particularly in the area of pronunciation teaching.

One pedagogical implication of this study which the researcher feels has direct relevance to the teaching of English in a Malaysian setting particularly in the situation in which the subjects in this study are (i.e. institution of higher learning) is that the teacher should expect variability in the speech performance of their learners. As the results of this study suggest, the subjects' speech performance is sensitive to the nature of the verbal tasks they are involved in. In view of this, teachers should expect differences in the speech performance of their learners in different verbal tasks. Teachers should not treat their learners' speech performance in terms of 'correct' vs 'incorrect' without taking into account situational factors affecting variability in their learners' speech performance. As the result of this study and other studies (Dickerson (1974), Schmidt (1977) and Tarone (1985)) suggest, some verbal tasks such as the reading of word list and minimal pairs produce more TL variants than other type of verbal tasks such as dialogue reading and free conversation. As Dickerson's (1974) study shows quite clearly, learners are also sensitive to various phonetic environments. Beebe (1982) and Beebe and Zuengler (1983) suggest social psychological factors such as ethnic identity, solidarity, topic expertise and the relative status of the interlocutors as having significant bearing upon variability in learners' speech performance. From the empirical evidence of previous studies on IL we know that learners' variable performance is a reflection of their response to various situational and linguistic factors. Thus, in view of this, teachers should change their attitude towards their learners' 'faulty' pronunciation. Teachers should always bear in mind the notion of variability in their learners'

speech production. They should be wary of making judgements about their learners whenever they encounter 'faulty' pronunciation in their speech.

The results of this study have an important implication as far as evaluation of learners' progress is concerned. Care should be taken when assessing the learners' progress. Teachers should be realistic when assessing their learners' performance in the verbal tasks given to them in the test. It would be unrealistic and unfair to expect the same performance across the different types of verbal tasks. For instance, the same standard should not be applied when assessing the learners' performance in different verbal tasks such as the reading of minimal pairs and free speech. Teachers should take into account the notion of variability when assessing their learners' progress. They should bear in mind that learners do not perform the same way in different linguistic and situational environments such as phonetic environments, verbal tasks and contexts of situation. It would do injustice to their learners if the same grading standard applies to their learners' speech performance irrespective of the linguistic and situational factors mentioned above.

Since the Malaysian public examination system also involves an oral examination with the aim of assessing learners' speech performance, the researcher feels that it is crucial that the current grading system of pronunciation in the public examination as well as the situation in which the subjects in this study are (institution of higher learning) be reviewed. From the experience of the researcher as an assessor of English oral examination in Malaysian public examinations, there was no systematic way of assessing learners' pronunciation . It would be unreliable to depend solely on teachers' intuitive judgement of 'excellent', 'good' 'poor' etc. in assessing their learners' pronunciation. What is needed is a standard grading system of pronunciation which accommodates both the learners' variable performance and varying degrees of correctness in assessing learners' pronunciation. Once the standard grading system of pronunciation is formulated, teachers should be made

aware of it and proper in-service training programmes should also be designed to promote teachers' awareness in this area.

7.2 Limitations of the Study and Recommendations for Future Research

This study is an investigation of the use of the English sound system by Malaysian learners of English. It is undertaken in order to establish the patterns of their pronunciation as they vary from one verbal task to another. This study is a synchronic investigation of variability in interlanguage involving analysis of subjects' speech performance of the English phonemes under investigation and it provides a description of the subjects' overall linguistic performance at a single point in time. It would be better, in the opinion of the researcher if a longitudinal study of some aspects of this research could be made in order to see the subjects' progress over time as done by Dickerson (1974) and Hakuta (1975) and Huebner (1983). Unfortunately, such an investigation was not possible due to factors such as the nature of the subjects, time, and distance between the researcher and the subjects. The subjects involved in this study are mainly in the third year of their studies at the University of Science, Penang, Malaysia. An investigation involving longitudinal study is not possible as most of them would be leaving the university by the end of the academic year. As mentioned in Section 3.2.1 originally the idea was to focus the investigation on first year students so that their progress over time could be studied but unfortunately the idea had to be abandoned due to unavailability on the students' part. Such a study involving learners' progress over time would provide useful information about their interlanguage. It would enable the researcher to see if there were any change in the learners' use of a particular variant over a period of time and to look at the nature of such change and to see whether the learners move towards the TL at the end of the period. A study involving longitudinal data needs

to be carried out on Malaysian subjects in order to provide richer insights into the nature of the IL phonology of Malaysian learners of English.

This study employs task-based data elicitation. Since one of the central parts of this study is to examine subjects' performance as they vary from one situational context to another, it is essential that a wide range of tasks be included to reflect the different range of situations i.e. from formal to casual. The researcher is aware that it is not easy to make a clear distinction between formal and casual aspects of the tasks especially in an investigation such as conducted in this study which involves a formal setting i.e. language studio with the subjects having to face the recording instruments and the presence of the researcher during the elicitation of data. Nevertheless, as mentioned in section 3.4.2.1, free conversation in the context of this research can be regarded as casual because during the conversation the subjects seemed to be relaxed and they were actively involved in relating their experience to the researcher resulting in their attention to the content of their speech rather than to the delivery aspect of their speech. This in turn, resulted in greater use of variants which are distant from the TL sounds which marks one of the main features of casual speech style. Besides, the subjects in this study were not aware that their speech was being tape recorded during the interview resulting in their use of the speech style they would normally use in a casual situation. Moreover, the subjects in this study are used to the presence of recording equipment in the studio because most of the instruction on their pronunciation course is conducted in that kind of environment. The casual and friendly relationship established between the researcher and the subjects prior to the study provides the researcher with an advantage of having this speech style come to resemble 'participant observation'. However, when the subjects approached other tasks such as minimal pairs, word list reading and dialogue reading, they were informed that they would be tested on their pronunciation resulting in their attention to the form of their speech. Though in dialogue reading the subjects still focus their attention on the form, as they do in

minimal pairs and word list reading, due to their unfamiliarity with the text, they are expected to produce a style which is different from minimal pairs and word list reading because dialogue reading requires a faster pace of delivery. As revealed in this study, the subjects produce variability in their speech styles as they respond to each different verbal task. However, a difficulty in this type of data elicitation technique appears when a researcher has a number of different phonemes to investigate. The problem usually arises during free conversation where, in an attempt to make the conversation look as natural as possible, the researcher may fail to elicit certain phonemes as happened here. This study suffers from lack of data for some of the phonemes under investigation in free conversation resulting in difficulty in making comparisons across all the verbal tasks. Thus, in the attempt to obtain the most natural speech form the researcher may have to suffer a lack of data for some phonemes. The only way to compensate for this would be to make further recordings. This, however, may not always be possible.

This study is limited to an investigation of a number of English consonants at the segmental level. Much work needs to be done on other areas of phonology. It would be interesting to see how Malaysian learners of English perform in their production of English vowels as they frequently have difficulty in discriminating and producing long and short vowels. At the supra-segmental level, variability studies on learners' performance of English stress, rhythm and intonation are needed. Though previous studies have been carried out on various aspects of Malaysian English, none of the studies examines learners' performance across various contexts of situation or across different verbal tasks. As the results of this study reveal, variability in the performance of the Malaysian subjects seems to be the product of their responses to different verbal tasks representing the different contexts of situation ranging from formal to casual. The Malaysian subjects in this study produced the predicted ranking of style shifting across the four verbal tasks with the highest index scores in their reading of minimal pairs. This is followed by word list

reading, then dialogue reading and finally free conversation. The findings of this study also indicate that subjects' variability in speech performance also depends upon the linguistic environment in which the phonemes occur. Unlike Beebe's finding (1980) in her examination of the effect of the linguistic environment on English /r/ produced by Thai learners in which their production varies depending upon whether /r/ is word-initial or word-final, the results of this study show that the subjects' production of the TL phonemes is very much governed by the nature of the verbal tasks they are engaged in irrespective of the positions of the phonemes in the words. It would be interesting to see if the production of vowels and supra-segmental aspects of speech follow the same pattern as with the consonants in this study.

The findings of this study reveal that the subjects produce an interesting result in their speech performance of phoneme /r/. It seems that further investigation needs to be carried out on the production of the phoneme by Malaysian subjects so as to throw light on the nature of the subjects' linguistic behaviour.

Finally, test items in each verbal task must be more carefully designed in the future before they are administered to the subjects. To enable the researcher to compare subjects' performances across all the four verbal tasks, it is essential that each phoneme under investigation occurs in all the tasks. If the study also involves the examination of the effect of linguistic environment (i.e. word initial, medial and final) on the subjects' production of those phonemes, it is necessary to ensure that the same words which contain the phoneme under investigation occur in all contexts of verbal tasks. By doing this the researcher will be able to make a better comparison of the data. In the context of the present study, the researcher had difficulty in making such a comparison of all the phonemes under study across all the verbal tasks due to lack of data for some phonemes particularly in free conversation.

In observing the behaviour of, for instance, phoneme /D/, which was found in the same phonetic environment in minimal pairs, word list reading and dialogue reading but not in free conversation, the researcher found that some kind of patterning in the behaviour of the phoneme in relation to its position in the words could be detected. However the linguistic patterning of the phoneme concerned is nevertheless governed by the nature of the verbal task. The accurate variant occurs in the reading of minimal pairs, followed by a lesser proportion of the variant in word list reading, and finally a greater proportion of more distant variants in the reading of dialogue. This is also true with the subjects' performance for all final stop phonemes where their production of those phonemes is sensitive to the type of verbal task they are involved in. This suggests that contexts of situation as represented by the different verbal tasks have a significant bearing on a subject's production of a particular phoneme irrespective of whether the phoneme under investigation is word initial, medial or final. Thus, in the opinion of the researcher, any studies involving the behaviour of a particular phoneme according to linguistic environment (i.e. word initial, medial and final) needs to take into account the effect of different contexts of situation e.g. verbal tasks on the speech performance of the subjects. It would be misleading to generalise one's findings based on the behaviour of a particular phoneme in relation to phonetic context alone without taking into account the behaviour of the phoneme concerned across the different contexts of situation. As suggested by the findings of this study, the behaviour of phonemes is not only sensitive to phonetic environment but most of all to the nature of the verbal tasks the subjects are involved in.

REFERENCES

Alias Mohamad Yatim (1992) *Fonetik dan Fonologi. Satu Tinjauan.* Penang: Penerbit Sarlis

Asmah Hj Omar (1982) *Language And Society in Malaysia.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

___ (1983) *The Roles of English in Malaysia in the Context of National Language Planning.* In Varieties of English in SouthEast Asia. Noss R B (edt) Singapore: Singapore University Press for SEAMEO Regional Language Centre.

___ (1992) *The Linguistic Scenery in Malaysia.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Adjemaian, C (1976) *On the Nature of Interlanguage System*. Language Learning 22, 297-320

Argente, J A (1992) *From Speech to Speaking Styles*. In *Speech Communication.* Vol. 11, Nos 4 -5, October, 1992. The Netherlands: North-Holland. 325 - 336.

Asher, R E (1985) *Tamil*. Croom Helm Descriptive Grammars. London: Routledge

Augustine, J (1982) *Regional Standards of English in Peninsular Malaysia.* In Pride, J (ed) New Englishes, Newbury House Publishers, Inc.

Bailey, C J (1973 a) *Variation and Linguistic Theory.* Washington DC: Centre for Applied Linguistics.

_____ (1973 b) *The Patterning of Language Variation in Varieties of Present-Day English.* Bailey R W and J L Robinson (eds.) The Macmillian Company, New York.

Baskaran, L (1994) *The Malaysian English Mosaic: An Outline of the Three Social Dialects and Hybrid Style of a Vigorous 'New English'* English Today. ET 37, vol. 10 no.1, January 1994, 27 - 35.

Beebe, L (1980) *Sociolinguistic Variation and Styleshifting in Second Language Acquisition.* Language learning 30, 2:433-447.

___ (1981) *Social and Situational Factors Affecting the Communicative Strategy of Dialect Code -switching.* International Journal of Sociology of Language 32:139-149.

___ & Zuengler, J (1983) *Accommodation Theory: An Explanation for Style Shifting in Second Language Dialects.* In Wolfson, N & Judd, E (eds) *Sociolinguistics and Second Language Acquisition.* Rowley, Mass.: Newbury House.

___ and Giles H (1984) *Speech Accommodation Theories: A Discussion in Terms of Second Language Acquisition.* International Journal of Sociology of Language 46:5-32.

___ (Ed) (1988) *Issues in Second Language Acquisition: Multiple Perspectives.* New York: Newbury House publishers.

Bialystok, E (1991) *Language Processing in Bilingual Children.* Cambridge University Press.

Bickerton, D & Odo, C (1976) *Change and Variation in Hawaiian English: General Phonology and Syntax.* Vol. 1 of Final Report on NSF Grant No. GS-39748

Brown, A (1991) *Pronunciation Models.* Singapore: Singapore University Press.

Brown, P and Fraser, C (1979) *Speech as a Marker of Situations.* In Scherer and Giles (eds.), p 33-62.

Calverts, D (1986) *Descriptive Phonetics.* New York, Thieme Inc.

Catford, J C (1988) *A Practical Introduction to Phonetics.* Oxford: Clarendon Press.

Chambers, J K & Trudgill, P (1980) *Dialectology.* Cambridge: Cambridge University Press

Chomsky, N (1965) *Aspects of the Theory of Syntax.* Cambridge, Mass.: MIT Press.

Clark, J & Yallop C (1992) *An Introduction to Phonetics and Phonology.* Oxford: Blackwell.

Coates,J (1986) *Women. Men and Language.* London: Longman

Comrie, B (1990) *The Major Languages of East and South-East Asia.* London: Routledge.

Coolican, H (1990) *Research Methods and Statistics in Psychology.* Kent: Hodder and Stoughton.

Corder, S P (1971) *Idiosyncratic Dialects and Error Analysis.* IRAL 9, 147-59.

___ (1974) *The Significance of Learners Errors.* In Richards, J C (Ed) *Error Analysis: Perspectives on Second Language Acquisition,* London: Longman.

Cruttenden, A (1994) *Gimson's Pronunciation of English.* Fifth Edition. London: Edward Arnold.

Davies, A , Criper, C & Howatt, A eds. (1984) *Interlanguage.* Edinburgh: Edinburgh University Press.

DeFrancis, J (1984) *The Chinese Language. Facts and Fantasy.* Honolulu; University of Hawaii Press.

Dickerson, L (1974) *Internal Patterning of Phonological Variability in the Speech of Japanese Learners of English: Toward a Theory of Second Language Acquisition.* Ph.D. Dissertation, University of Illinois.

___ (1975) *The Learner's Interlanguage as a System of Variable Rules.* TESOL Quarterly 9: 401-407.

___ & Dickerson W (1977) *Interlanguage Phonology : Current Research and Future Directions, in Interlanguages and Pidgins and their Relations to Second Language Pedagogy,* ed. S P Corder & E Roulet. Libraire Droz Neufchatel.

Dickerson, W (1976) *The Psycholinguistic Unit of Language Learning and Language Change.* Language Learning 26, 2:215-231.

Ellis, R (1985a) *Sources of Variability in Interlanguage,* Applied Linguistics 6:118-131.

___ (1985b) *Understanding Second Language Acquisition.* Oxford: Oxford University Press.

___ ed. (1987) *Second Language Acquisition in Context.* London: Prentice-Hall International.

___ (1994) *The Study of Second Language Acquisition.* Oxford: Oxford University Press.

Engstrand, O (1992) *Systematicity of Phonetic Variation in Natural Discourse.* In *Speech Communication.* Vol. 11, Nos 4 -5, October, 1992. The Netherlands: North-Holland. 337 - 346.

Fasold, R (1984) *Variation Theory and Language Learning.* In Applied Socio-linguistics, ed. P. Trudgill. London: Academic Press.

Ferguson, G A, & Takane, Y sixth ed. (1989) *Statistical Analysis in Psychology and Education.* Singapore: McGraw-Hill Book Company.

Gardner, R C & Lambert W E (1972) *Attitudes and Motivation in Second Language Learning.* Rowley , Mass: Newbury House.

Gardner, R C (1985) *Social Psychology and Second Language Learning: The Role of Attitudes and Motivation.* London: Arnold

Gass, S & Selinker L eds. (1983) *Language Transfer in Language Learning.* Rowley, Mass: Newbury House.

Gass, S & Madden, C, eds. (1987) *Input in Second Language Acquisition.* Cambridge, Mass: Newbury House.

Gass, S, Madden, C, Preston, D & Selinker, L eds. (1989) *Variation in Second Language Acquisition Volume II : Psycholinguistic Issues.* Clevedon, Philadelphia: Multilingual Matters LTD.

Gaudart, H (1992) *Bilingual Education in Malaysia.* Queensland: James Cook University of North Queensland.

Giles, H ed. (1977) *Language, Ethnicity and Intergroup Relations.* New York: Academic Press.

___ and Smith, P(1979) *Accommodation Theory: Optimal Levels of Convergence.* In Giles, H and St Clair, R (eds.) *Language and Social Psychology,* Oxford: Basil Blackwell, 45-65.

Goodluck, H (1991) *Language Acquisition: A Linguistic Introduction.* Blackwell.

Granstrom, B (1992) *The Use of Speech Synthesis in Exploring Different Speaking Styles.* In *Speech Communication,* vol. 11, nos 4 -5, October 1992. The Netherlands: North-Holland. 347 - 356.

Hakuta (1975) *A Case study of a Japanese Child Learning ESL.* Language Learning 26, 2:321 - 352.

Harris, J., Little, D. and Singleton, D. (eds.) (1986) *Perspectives on the English Language in Ireland.* Dublin: Trinity College.

Horvath, B M (1979) *Learning How to Speak Properly: Lectal Variants, Language Planning and Language Teaching.* In *Applications of Linguistics to Language Teaching.* Richards J C (Ed). Singapore: Singapore University Press for SEAMEO Regional Language Centre.

Huebner, T (1983) *Linguistic Systems and Linguistic Change in an Interlanguage,* Studies in Second Language Acquisition 6, 2: 33-53

Ioup, G & Weinberger, S eds. (1987) *Interlanguage Phonology: The Acquisition of a Second Language Sound System.* Cambridge, Mass: Newbury House.

Kachru, B (1982) *Models for Non-Native Englishes.* In Kachru B (Ed) *The Other Tongue: English Across Cultures.* Oxford: Pergamon. 31-57

Knowles, G (1978) *The Nature of Phonological Variables in Scouse.* In Trudgill, P (ed.) , *Sociolinguistic Patterns in British English,* London: Edward Arnold, 80-90.

Katamba, F (1989) *An Introduction to Phonology.* London: Longman.

Krashen, S (1981) *Second Language Acquisition and Learning.* Oxford: Pergamon.

Kurath, H (1972) *Studies in Area Linguistics.* Bloomington: Indiana University Press.

Labov, W (1966) *The Social Stratification of English in New York City.* Washington, D C. : Center For Applied Linguistics.

___ (1970) *The Study of Language in its Social Context.* Stadium Generale 23:30-87.

___ (1972) *Sociolinguistic Patterns.* Philadelphia: University of Pennsylvania Press.

___ (1994) *Principles of Linguistic Change. Volume 1: Internal Factors.* Cambridge, Mass: Blackwell

Ladefoged, P (1967) *Three Areas of Experimental Phonetics.* Oxford.

Laver, J & Trudgill, P (1979) *Phonetics and Linguistic Markers in Speech.* In Scherer, K R & Giles, H (eds) *Social Markers in Speech.* Cambridge: Cambridge University Press

Laver, J (1994) *Principles of Phonetics.* Cambridge: Cambridge University Press.

Laver, J and Trudgill, P (1979) *Phonetic and Linguistic Markers in Speech.* In Scherer and Giles (eds.) *Social Markers in Speech,* 1-32.

Larson-Freeman, D & Long, M H (1991) *An Introduction to Second Language*

Acquisition Research. London: Longman.

Lieberman, P & Blumstein, S (1988) *Speech Physiology, Speech Perception and Acoustic Phonetics*. Cambridge: Cambridge University Press

Littlewood, W (1981) *Language Variation and Second Language Acquisition Theory*. Applied Linguistics 2, 2:150-158

Long, M H (1983) *Does Second Language Instruction Make a Difference? A Review of the research.* TESOL Quarterly 17, 359-82.

Lowenberg, P H (1984) *English in the Malay Archipelago: Nativization And Its Functions In A Sociolinguistic Area.* Ph.D. Dissertation. University of Illinois At Urbana-Champaign.

Major, R (1987) *A Model of Interlanguage Phonology.* In Ioup & Weinberger (eds.) *Interlanguage Phonology: The Acquisition of a Second Language System*. Cambridge, Mass: Newbury House

Mashudi Haji Kader, Wong Y Y (1979) *The Teaching of English in University Sains Malaysia and Some Projections on English Programmes in the 1980's.* In *Proceedings of the Seminar on the Teaching of English in Institutions of Higher Learning in the 1980's.* 25th- 29th June, 1979. p 22 -29. Azizah Mokhzani, Supramaniam, R (eds.). MARA Institute of Technology (ITM) Monograph, Malaysia.

McLaughlin, B (1987) *Theories of Second Language Learning.* London: Edward Arnold.

Milroy J and Milroy L (1985) *Authority in Language*. London: Routledge

Milroy, J (1985) *The Methodology of Urban Language Studies: The Examples of Belfast.* In Harris, J et al (eds.), *Perspectives on the English Language in Ireland, Dublin:* Trinity College, 31-48.

Milroy, J (1987a) *Language and Social Networks.* 2nd edn. Oxford: Basil Blackwell.

___ (1987b) *Observing and Analysing Natural Language. A Critical Account of Sociolinguistic Method.* Oxford: Basil Blackwell.

___ (1992) *Linguistic Variation and Change.* Oxford: Blackwell.

Ministry of Education Malaysia. *The Teachers' Handbook for the Post-1970 Primary School Syllabus.* Kuala Lumpur: Dewan Bahasa dan Pustaka, 1973.

Mutalik, K (1974) *A Sociolinguistic Study of Spoken Kannada in Bagalkot.* PhD Dissertation. University of Leeds.

Nemser, W (1971) *Approximative Systems of Foreign Language Learners.* IRAL 9/2:115-23.

Norman, J (1988) *Chinese.* Cambridge; Cambridge University press

Noss, R B (Ed) (1983) *Varieties of English in Southeast Asia.* Singapore: SEMEO Regional Language Centre(RELC). Anthology Series no. 11.

Platt, J and Weber, H (1980) *English in Singapore and Malaysia: Status, Features and Functions.* Kuala Lumpur: Oxford University Press.

___ , Ho M L (1984) *The New Englishes.* London: Routledge and Keagan Paul

Preston, D R (1989) *Sociolinguistics and Second Language Acquisition.* Oxford: Basil Blackwell.

Pride, J B (1982) (Ed) *New Englishes.* Rowley, Mass.: Newbury House Publishers Inc.

Ramish, L M (1969) *An Investigation of the Phonological Features of the English of Singapore and Their Relation to the Linguistic Substrata of Malay, Tamil and Chinese.* Ph.D. Thesis, Brown University

Rampton, B (1987) *Stylistic Variability and not Speaking 'Normal' English: Some Post Labovian Approaches and their Implications for the Study of Interlanguage.* In R Ellis (Ed) *Second Language Acquisition in Context.* London: Prentice Hall Int.

Richards, J C (1971) *A Non-contrastive Approach to Error Analysis,* English Language Teaching 25, 204-19.

Robinson, W P (1979) *Speech Markers and Social Class.* In Scherer and Giles (eds.) *Social Markers in Speech,* 211-246. Cambridge: Cambridge University Press.

Rodgers, A J (1979) *The English Language Programmes in Malaysian Schools.*

In *Proceedings of the Seminar on the Teaching of English in Institution of Higher Learning in the 1980's.* 25th - 29th June, 1979. p 3 -13. Azizah Mokhzani, Supramaniam, R (eds.). MARA Institute of Technology (ITM) Monograph, Malaysia.

Romaine, S (1980) *A Critical Overview of the Methodology of Urban British Sociolinguistics.* English World Wide 1, 163-98.

Sato, C (1984) *Phonological Processes in Second Language Acquisition: Another Look at Interlanguage Syllable Structure.* In Ioup & Weinberger, eds (1987) *Interlanguage Phonology: The Acquisition of a Second Language Sound System*, 248-260. Cambridge, Mass: Newbury House.

___ (1987) *Task Variation in Interlanguage Phonology.* In Gass & Madden, eds. *Input in Second Language Acquisition,* 181-196. Cambridge, Mass: Newbury House.

Saville-Troike, M (1982) *The Ethnography of Communication. An Introduction* Oxford, Basil Blackwell.

Scarcella, R C & Krashan, S D (1980) *Research in Second Language Acquisition.* Rowley, Mass.: Newbury House.

Schachter, J (1986) *In Search of Systematicity in Interlanguage Production.* Studies in Second Language Acquisition 8, 119-34.

Scherer, K R & H Giles eds. (1979) *Social Markers in Speech.* Cambridge: Cambridge University Press.

Schmidt, R W (1977) *Sociolinguistic Variation and Language Transfer in Phonology.* In Ioup & Weinberger, eds.(1987) *Interlanguage Phonology: The Acquisition of a second Language Sound system.* 365-377.

Schumann, J (1978) *The Pidginization Process: A Model for Second Language Acquisition.* Rowley, Mass: Newbury House.

Segalowitz, N & Gatbonton, E (1977) *Studies of the Non-Fluent Bilinguals* . In *Bilingualism: Psychological, Social and Educational Implications.* New York: Academic Press. 77-89.

Seliger, H (1988) *Psycholinguistic Issues in Second Language Acquisition.* In Beebe L M (Ed). *Issues in Second Language Acquisition:* Multiple Perspectives. New York: Newbury House. 17 -40.

Selinker, L (1969) *Language Transfer.* General Linguistics, 10, 219-31.

___ (1972) *Interlanguage.* IRAL 10,3: 209-31.

___ (1984) *The Current State of Interlanguage Studies: An Attempted Critical Summary.* In Davies et al. (1984) *Interlanguage.* Edinburgh, Edinburgh University Press 322-43.

___ & Douglas, D (1988) *Wrestling With 'Context' in Interlanguage Theory.* Applied Linguistics 6, 2: 190-204.

___ (1992) *Rediscovering Interlanguage.* London: Longman.

Siegel, S & Castellan, NJ, JR (1988) *Non Parametric Statistics.* New York: McGraw Hill Book company.

Tarone, E, Frauenfelder, U & Selinker, E (1976) *Systematicity/Variability and Stability/Instability in Interlanguage Systems: More Data from Toronto French Immersion.* In Language Learning 4 (Special Issue) ed. H D Brown 93-134.

___ (1979) *Interlanguage as Chameleon.* Language Learning 29, 1:181-191.

___ (1982) *Systematicity and Attention in Interlanguage*. Language Learning 32:69-82.

___ (1983) *On the Variability in Interlanguage Systems.* Applied Linguistics 4/2: 143-163.

___ (1985) *Variability in Interlanguage Use: A Study of Style-shifting in Morphology and Syntax.* Language Learning 35, 3:373-404.

___ (1987a) *Methodologies for Studying Variability in Second language Acquisition. In Second Language Acquisition in Context* by Rod Ellis (ed.) Cambridge: Prentice-Hall International.

___ (1987b) *The Phonology of Interlanguage.* In *Ioup G & Weinberger, S (eds.)*

___ (1987). *Interlanguage Phonology: The Acquisition of a Second Language Sound System.* Cambridge, Mass: Newbury House.

___ (1988). *Variation in Interlanguage.* London: Edward Arnold.

Tay, M W J (1981) *Problems in Teaching Pronunciation,* RELC Journal 4, 1: 1 - 8.

Tongue, R K (1974) *The English in Singapore and Malaysia* (Second Revised Edition) Singapore: Eastern university Press.

Towell, R & Hawkins R (1994) *Approaches to Second Language Acquisition.* Clevedon: Multilingual Matters Ltd.

Trudgill, P (1971) *The Social Differentiation of English in Norwich.* Ph.D. Dissertation, Edinburgh University. Published by Cambridge University Press (1974).

___ (1972) *Sex, Covert Prestige and Linguistic Change in the Urban British English of Norwich.* Language in Society 1, 2:179-195.

___ (1974) *Social Differentiation of English in Norwich.* Cambridge: Cambridge University Press.

___ (ed.) (1978) *Sociolinguistic Patterns in British English.* London: Edward Arnold.

___ (1983) *Sociolinguistics,* 2nd edn. Harmondsworth: Penguin Books.

___ (ed.) (1984) *Applied Sociolinguistics.* London: Academic Press.

Wan Joo, M T (1979) *Understanding Variability in Second Language Learners'*

Pronunciation Systems: Some Implications for Linguistic Research and Language Teaching. In *Applications of Linguistics to Language Teaching.* Richards, J C(edt). Singapore: Singapore University Press for SEAMEO Regional Language Centre.

Wang, Y Y (1987) *The Intelligibility of Malaysian English.* Ph.D. Dissertation. Institute of Education, London.

Wardhaugh, R (1896) *An Introduction to Sociolinguistics.* Oxford, Basil Blackwell

Weinberger, S H (1987) *The Influence of Context on Syllable Simplification.* In Ioup & Weinberger eds (1987). *Interlanguage Phonology : The Acquisition of Second Language Sound System.* Cambridge, Mass: Newbury House. P 325 - 336.

Weinreich, U (1954) *Is Structural Dialectology Possible?* Word 10, 388-400.

___ (1970) *Languages in Contact: Findings and Problems.* 7th printing. The Hague: Mouton.

Wolfson, N (1976) *Speech Events and Natural Speech: Some Implications for* Sociolinguistic Methodology. Language in Society 5, 189-209.

____ (1981) *Invitations, Complaints and the Competence of the Native Speakers.* International Journal of Psycholinguistics 24.

____ (1983) *Rules of Speaking.* In Richards, J & Schmidt R (eds) *Language and communication,* London: Longman. 61-87.

____ & Judd, E (eds) *Sociolinguistics and Second Language Acquisition.* Rowley, Mass.: Newbury House.

____ (1989) *Perspectives: Sociolinguistics and TESOL.* New York: Newbury House Publishers.

Wong, F H K (1977) *Readings in Malaysian Education.* Kuala Lumpur: Penerbit Universiti Malaya.

Wong, I F H (1981) *English in Malaysia.* In Smith , L E (Ed) *English for Cross Cultural Communication.* London: MacMilliam Press Ltd.

____ (1982) *Native Speaker English for the Third World Today?.* In Pride, J (Ed) *New Englishes.* Newbury House Publishers Inc.

____ (1983) *Simplification Features in the Structure of Colloquial Malaysian English.* In *Varieties of English in SouthEast Asia.* Noss R B(edt). Singapore: Singapore University Press For SEAMEO Regional Language Centre.

_____ (1983) *English in Malaysia.* In Smith, L (Ed). *English for Cross Cultural Communication.* London: MacMillan Press Ltd.

Woods, A, Fletcher P & Hughes A (1986) *Stastistics in Language Studies* Cambridge: Cambridge University Press.

Young, R (1991) *Variation in Interlanguage Morphology.* New York: Peter Lang.

APPENDICES

Appendix A: Analysis of Variance (ANOVA) of Phoneme /θ/

```
* * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -


* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         2995.26      81     36.98
 FACTOR1                29509.21       3   9836.40     266.00      .000
 GROUP BY FACTOR1         933.76       6    155.63       4.21      .001

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -


* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         3491.06      27    129.30
 GROUP                   3929.56       2   1964.78      15.20      .000

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix B: Analysis of Variance (ANOVA) of Phoneme /ð/

```
* * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         1578.08      81     19.48
 FACTOR1                17543.19       3   5847.73     300.15       .000
 GROUP BY FACTOR1         142.35       6     23.72       1.22       .306

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL          983.62      27     36.43
 GROUP                    254.70       2    127.35       3.50       .045

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix C: Analysis of Variance (ANOVA) of Phoneme /v/

```
* * * * * * Analysis of Variance * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -


* * * * * * Analysis of Variance -- design  1 * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         3232.67      81     39.91
 FACTOR1                17843.39       3   5947.80     149.03       .000
 GROUP BY FACTOR1         399.87       6     66.65       1.67       .139

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

* * * * * * Analysis of Variance -- design  1 * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         5380.82      27    199.29
 GROUP                   1152.30       2    576.15       2.89       .073

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix D: Analysis of Variance (ANOVA) of Phoneme /r/

```
* * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         6432.82      81     79.42
 FACTOR1                 1622.85       3    540.95       6.81       .000
 GROUP BY FACTOR1        1962.36       6    327.06       4.12       .001

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         3725.40      27    137.98
 GROUP                    210.35       2    105.17        .76       .476

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix E: Analysis of Variance (ANOVA) of Phoneme /p/

```
* * * * * * Analysis of Variance * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -


* * Analysis of Variance -- design 1 * * * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
Source of Variation          SS      DF        MS          F  Sig of F

WITHIN+RESIDUAL         5923.02      81     73.12
FACTOR1                 8887.52       3   2962.51      40.51       .000
GROUP BY FACTOR1         379.05       6     63.17        .86       .525

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

* * * * * * Analysis of Variance -- design 1 * * *

Tests of Between-Subjects Effects.

Tests of Significance for T1 using UNIQUE sums of squares
Source of Variation          SS      DF        MS          F  Sig of F

WITHIN+RESIDUAL         2541.60      27     94.13
GROUP                     30.31       2     15.16        .16       .852

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix F: Analysis of Variance (ANOVA) of Phoneme /b/

```
* * * * * * Analysis of Variance * * * * * *

        21 cases accepted.
         0 cases rejected because of out-of-range factor values.
         9 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * Analysis of Variance -- design 1 * * * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS         F  Sig of F

 WITHIN+RESIDUAL          4414.95      54     81.76
 FACTOR1                 16384.45       3   5461.48     66.80      .000
 GROUP BY FACTOR1         1638.80       6    273.13      3.34      .007

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * Analysis of Variance -- design 1 * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS         F  Sig of F

 WITHIN+RESIDUAL          4979.90      18    276.66
 GROUP                    2490.20       2   1245.10      4.50      .026

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix G: Analysis of Variance (ANOVA) of Phoneme /t/

```
* * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL          3303.14      81     40.78
 FACTOR1                 33083.65       3  11027.88     270.43      .000
 GROUP BY FACTOR1           85.15       6     14.19       .35      .909

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL          3447.74      27    127.69
 GROUP                      95.67       2     47.84       .37      .691

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix H: Analysis of Variance (ANOVA) of Phoneme /d/

```
* * * * * * Analysis of Variance * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * Analysis of Variance -- design 1 * * * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL          4054.94      81     50.06
 FACTOR1                117730.98       3  39243.66     783.92       .000
 GROUP BY FACTOR1          378.06       6     63.01       1.26       .286

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * Analysis of Variance -- design 1 * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL          2879.36      27    106.64
 GROUP                     357.13       2    178.56       1.67       .206

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix I: Analysis of Variance (ANOVA) of Phoneme /k/

```
* * * * * * Analysis of Variance * * * * * *

        30 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * Analysis of Variance -- design 1 * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         3385.32      81     41.79
 FACTOR1                71357.36       3  23785.79     569.12       .000
 GROUP BY FACTOR1         878.31       6    146.38       3.50       .004

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * Analysis of Variance -- design 1 * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL         1992.65      27     73.80
 GROUP                    511.26       2    255.63       3.46       .046

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Appendix J: Analysis of Variance (ANOVA) of Phoneme /g/

```
* * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * *

        25 cases accepted.
         0 cases rejected because of out-of-range factor values.
         5 cases rejected because of missing data.
         3 non-empty cells.

         1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * * *

Tests involving 'FACTOR1' Within-Subject Effect.

 AVERAGED Tests of Significance for MEAS.1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL          8218.45      66    124.52
 FACTOR1                 39092.89       3  13030.96     104.65      .000
 GROUP BY FACTOR1         4310.98       6    718.50       5.77      .000

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
* * * * * * A n a l y s i s   o f   V a r i a n c e -- design   1 * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation          SS      DF        MS          F  Sig of F

 WITHIN+RESIDUAL          5775.25      22    262.51
 GROUP                    4550.68       2   2275.34       8.67      .002

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

APPENDIX K: Significant Interaction

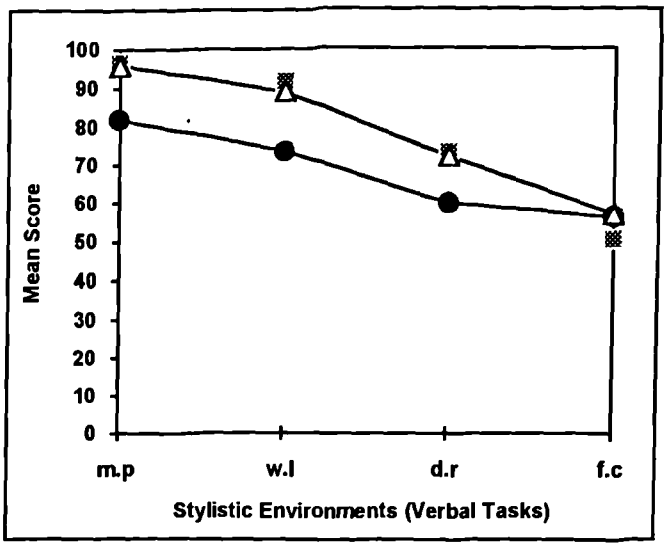


Fig. 1 Significant Interaction of The Group Performance of Phoneme /b/ Across the Four Verbal Tasks.

Legend:
Group 1 (G1)
Group 2 (G2)
Group 3 (G3)

Statistical analysis using a Repeated Measure of ANOVA design indicates that there is a significant difference in the subjects' performance across the four different verbal tasks (see Appendix A - J). The results also suggest that all the three groups under investigation (i.e. Malays (G1), Chinese (G2) and Indians (G3)) perform at the highest level in the reading of minimal pairs, followed by word list reading, then dialogue reading and finally free conversation. However, the results also indicate an evidence of 'significant interaction' between the group performance across the verbal tasks in the subjects' performance of phonemes /θ/, /r/, /b/ /k/ and /g/ (see Appendix A, D, F, I and J) . What is meant by significant interaction is that there is an interaction between groups and Factor 1 (i.e. verbal tasks) and that the interaction is statistically significant. Though all the three groups perform at the highest level in minimal pairs reading, followed by word list reading, then dialogue reading and finally free conversation, it is not always the case, for instance, that G1 performs at a higher level than G2 and G3 in each one of the different verbal tasks. In other words, the ordering of their performance is not always in the same in each of the verbal tasks. Sometimes, G2 performs better than G1 and G3 in the other tasks. **Fig. 1** above illustrates the point (see **Table 6.7** for details of the mean

scores). In **Fig. 1**., G1 records the highest mean score in the reading of minimal pairs, word list reading and dialogue reading. However they record the lowest mean score in their performance in free conversation. On the contrary, though G2 performs the lowest in the three verbal tasks mentioned above, they perform better than G1 in free conversation.

Note:

Significant interaction between group and factor 1 (verbal tasks) occurs in the following phonemes:

Phoneme /θ/, significant interaction of F=4.21 (p = .001)**
Phoneme /r/, significant interaction of F=3.54 (p = .004)**
Phoneme /b/, significant interaction of F=3.34 (p = .007)**
Phoneme /k/, significant interaction of F=3.50 (p= .004)**
Phoneme /g/, significant interaction of F=5.77 (p = .000)*

*Statistically significant ($p < .001$)
**Statistically significant ($p < .01$)

APPENDIX L : Test Materials (Pilot Study)

TEST 1

This test consists of two parts(Parts I and II). Part 1 consists of a word list and Part II consists of a dialogue.

PART 1 (Reading of a Word list)
This part consists of 10 words.
Read each of the words clearly and carefully.

1. mouth
2. thanks
3. nothing
4. think
5. teeth
6. thick
7. three
8. both
9. theme
10. author

Part II (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

Gossips

Judith: *Edith Smith is only thirty.*
Ethel: *Is she? I thought she was thirty-three.*
Judith: *Edith's birthday was last Thursday.*
Ethel: *Was it? I thought it was last month.*
Judith: *The Smiths' house is worth thirty thousand pounds.*
Ethel: *Is it? I thought it was worth three thousand.*
Judith: *Mr Smith is the author of a book about moths.*
Ethel: *Is he? I thought he was a mathematician.*
Judith: *I'm so thirsty.*
Ethel: *Are you? I thought you drank something at the Smiths'.*
Judith: *No. Edith gave me nothing to drink.*
Ethel: *Shall I buy you a drink?*
Judith: *Thank you.*

Source: Baker, A (1981) Ship or Sheep? (2nd edition) Cambridge University Press

TEST 2

This test consists of two parts (Parts I & II). Part I consists of a word list and Part II consists of a dialogue.

PART I (Reading of a Word List)
This part consists of 10 words.
Read each of the words clearly and carefully.

1. bathe
2. with
3. there
4. they
5. clothe
6. those
7. breathe
8. than
9. father
10. this

PART II (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

The hat in the window

Miss Brothers: *I want to buy the hat in the window.*
Assistant: *There are three hats together in the window, madam. Do you want the one with the feathers?*
Miss Brothers: *No. The other one.*
Assistant: *The small one for three pounds?*
Miss Brothers: *No. Not that one either. That one over there. The leather one.*
Assistant: *Ah! The leather one. Now this is another leather hat, madam. It's better than the one in the window. It's a smoother leather.*
Miss Brothers: *I'd rather have the one in the window. It goes with my clothes.*
Assistant: *Certainly, madam. But we don't take anything out of the window until three o'clock on Thursday.*

Source: Baker, A (1981) Ship or Sheep? (2nd edition) Cambridge University Press

TEST 3

This test consists of two parts (Parts I & II). Part I consists of a word list and Part II consists of a dialogue.

PART I (Reading of a Word List)
This part consists of 20 words.
Read each of the word clearly and carefully.

1.	van	11.	west
2.	veal	12.	whale
3.	five	13.	wiper
4.	halve	14.	wine
5.	vest	15.	white
6.	driving	16.	railway
7.	lovely	17.	squirm
8.	village	18.	quick
9.	valley	19.	wise
10.	arrive	20.	warm

PART II (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

A walk in the woods

Gwen: *Did you see Victor on Wednesday, Wendy?*

Wendy: *Yes. We went for a walk in the woods near the railway.*

Gwen: *Wasn't it cold on Wednesday?*

Wendy: *Yes. It was very cold and wet. We wore warm clothes and walked quickly to keep warm.*

Gwen: *It's lovely and quiet in the woods.*

Wendy: *Yes. Further away from the railway it was very quiet, and there were wild squirrels everywhere. We counted twenty squirrels.*

Gwen: *How wonderful! Twenty squirrels! And did you take lunch with you?*

Wendy: *Yes. About twelve we had veal sandwiches and sweet white wine, and we watched the squirrels. It was a very nice walk.*

*Source: Baker, A (1981) **Ship or Sheep?** (2nd edition) Cambridge University Press*

TEST 4

This test consists of two parts (Parts I & II). Part I consists of a word list and Part II consists of a dialogue.

SECTION A
This section consists of two parts. Part I consists of a word list and part II consists of minimal pairs.

PART I (Reading of a Word List)
This part consists of 30 words.
Read each of the following word clearly and carefully.

1.	glass	11.	pretty
2.	gentle	12.	trick
3.	pencil	13.	rain
4.	clever	14.	road
5.	usual	15.	free
6.	long	16.	narrow
7.	low	17.	truck
8.	little	18.	pray
9.	tell	19.	right
10.	collect	20.	grass

PART II (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

A proud parent

Mrs Randal: *Are all the children grown up now, Ruth?*
Mrs Reed: *Oh, yes. Laura is the cleverest one. She's a librarian in the public library.*
Mrs Randal: *Very interesting. And what about Rita?*
Mrs Reed: *She's a secretary at the railway station.*
Mrs Randal: *And what about Rosemary? She was always a very pretty child.*
Mrs Reed: *Rosemary is a waitress in a restaurant in Paris. She's married to an electrician.*
Mrs Randal: *And what about Jerry and Roland?*
Mrs Reed: *Jerry drives a lorry. He drives everywhere in Europe.*
Mrs Randal: *Really? Which countries does he drive to?*
Mrs Reed: *France and Austria and Greece and Russia.*
Mrs Randal: *And does Roland drive a lorry too?*
Mrs Reed: *Oh, no. Roland is a pilot.*
Mrs Randal: *Really? Which countries does he fly to?*
Mrs Reed: *Australia and America.*

*Source: Baker,A (1981) **Ship or Sheep?** (2nd edition) Cambridge University Press*

TEST 5

This test consists of four sections (Sections A, B, C and D). Sections A, B and C consist of a word list and Section D consists of a dialogue.

SECTION A
This section consists of 20 words.
Read each of the following words clearly and carefully.

1. help
2. keep
3. swamp
4. shop
5. harp
6. pup
7. dip
8. flap
9. leap
10. wrap
11. cab
12. grab
13. rub
14. rib
15. lobe
16. robe
17. mob
18. slab
19. bribe
20. tube

SECTION B
This section consists of 20 words.
Read each of the following words clearly and carefully.

1. spike
2. pack
3. clock
4. sack
5. desk
6. rack
7. look
8. luck
9. shrink
10. work
11. peg
12. rug
13. frog
14. sag
15. rig
16. bag
17. league
18. egg
19. swag
20. cog

SECTION C
This section consists 20 words.
Read each of the following words clearly and carefully.

1. part	11. sad
2. vat	12. bird
3. but	13. lord
4. great	14. tied
5. write	15. hide
6. net	16. ride
7. root	17. fade
8. text	18. glad
9. shut	19. bead
10. coat	20. made

SECTION D (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

Pat : *Hello, Mike.*
Mike : *Hello, Pat. It's my birthday today.*
Pat : *Oh, yes. Your birthday! Happy birthday, Mike!*
Mike : *Thanks, Pat. Somebody gave me this shirt for my birthday.*
Pat : *What a beautiful shirt!.*
Did your brother buy it for you?
Mike : *Yes. He bought it in New Zealand.*
Pat : *What did Kathy give you?*
Mike : *She gave me a travelling bag, a big bottle of perfume and a book about birds..*
Pat : *I didn't remember your birthday, Mike. I'm teribally sorry.*
Mike : *Well, you can buy me a camera.*
Pat : *I've got a better idea. We'll get into a cab and go to a pub, and I'll buy you a bottle of beer!*

APPENDIX M: Test Materials (Main Research)

TEST 1

This test consists of two sections(Sections A & B). Section A consists of a word list and minimal pairs while Section B consists of a dialogue.

SECTION A (Reading of a word list and Minimal Pairs)

PART 1 (Reading of a Word list)

This part consists of 20 words.
Read each of the words clearly and carefully.

1. mouth
2. thanks
3. thought
4. think
5. thumb
6. thick
7. three
8. both
9. theme
10. author
11. worth
12. path
13. lethal
14. thunder
15. thigh
16. death
17. nothing
18. faith
19. teeth
20. third

PART 11 (Minimal Pairs)

This part consists of 10 minimal pairs.
Read each of the words clearly and carefully.

1.	tin	thin
2.	tree	three
3.	mouse	mouth
4.	taught	thought
5.	tanks	thanks
6.	moss	moth
7.	sum	thumb
8.	pass	path
9.	tick	thick
10.	tie	thigh

SECTION B (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

Gossips

Judith: *Edith Smith is only thirty.*
Ethel: *Is she? I thought she was thirty-three.*
Judith: *Edith's birthday was last Thursday.*
Ethel: *Was it? I thought it was last month.*
Judith: *The Smiths' house is worth thirty thousand pounds.*
Ethel: *Is it? I thought it was worth three thousand.*
Judith: *Mr Smith is the author of a book about moths.*
Ethel: *Is he? I thought he was a mathematician.*
Judith: *I'm so thirsty.*
Ethel: *Are you? I thought you drank something at the Smiths'.*
Judith: *No. Edith gave me nothing to drink.*
Ethel: *Shall I buy you a drink?*
Judith: *Thank you.*

Source: Baker, A (1981) Ship or Sheep? (2nd edition) Cambridge University Press

SECTION C

This section consists of three parts (Parts I, II & III).

PART I (Reading of a Word List)
This part consists of 20 words.
Read each of the words clearly and carefully.

1. bathe	11. brother
2. with	12. that
3. there	13. another
4. they	14. though
5. clothe	15. either
6. those	16. feathers
7. breathe	17. loathe
8. than	18. smoother
9. the	19. booth
10. this	20. father

PART II (Minimal Pairs)
This part consists of 10 minimal pairs.
Read each of the words clearly and carefully.

1. day	they
2. dare	there
3. doze	those
4. bays	bathe
5. lows	loathe
6. whizz	with
7. breeze	breathe
8. boos	booth
9. dough	though
10. paze	pathe

PART III (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

The hat in the window

Miss Brothers: *I want to buy the hat in the window.*
Assistant: *There are three hats together in the window, madam. Do you want the one with the feathers?*
Miss Brothers: *No. The other one.*
Assistant: *The small one for three pounds?*
Miss Brothers: *No. Not that one either. That one over there. The leather one.*
Assistant: *Ah! The leather one. Now this is another leather hat, madam. It's better than the one in the window. It's a smoother leather.*
Miss Brothers: *I'd rather have the one in the window. It goes with my clothes.*
Assistant: *Certainly, madam. But we don't take anything out of the window until three o'clock on Thursday.*

Source: Baker, A (1981) Ship or Sheep? (2nd edition) Cambridge University Press

TEST 2

This test consists of two sections (Sections A & B). Section A consists of a word list and minimal pairs while section B consists of a dialogue.

SECTION A
This section consists of two parts (Parts I & II). Part I consists of a word list while part II consists of minimal pairs.

PART I (Reading of a Word List)
This part consists of 20 words.
Read each of the word clearly and carefully.

1.	van	11.	west
2.	veal	12.	whale
3.	five	13.	wiper
4.	halve	14.	wine
5.	vest	15.	white
6.	driving	16.	railway
7.	lovely	17.	squirm
8.	village	18.	quick
9.	valley	19.	wise
10.	arrive	20.	warm

PART II (Minimal Pairs)
This part consists of 10 minimal pairs.
Read each of the words clearly and carefully

1.	v	we
2.	veal	wheel
3.	vest	west
4.	van	when
5.	vet	wet
6.	vine	wine
7.	veil	whale
8.	verse	worse
9.	viper	wiper
10.	vain	wane

SECTION B (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

A walk in the woods

Gwen: *Did you see Victor on Wednesday, Wendy?*
Wendy: *Yes. We went for a walk in the woods near the railway.*
Gwen: *Wasn't it cold on Wednesday?*
Wendy: *Yes. It was very cold and wet. We wore warm clothes and walked quickly to keep warm.*
Gwen: *It's lovely and quiet in the woods.*
Wendy: *Yes. Further away from the railway it was very quiet, and there were wild squirrels everywhere. We counted twenty squirrels.*
Gwen: *How wonderful! Twenty squirrels! And did you take lunch with you?*
Wendy: *Yes. About twelve we had veal sandwiches and sweet white wine, and we watched the squirrels. It was a very nice walk.*

*Source: Baker, A (1981) **Ship or Sheep?** (2nd edition) Cambridge University Press*

TEST 3

This test consists of two sections (Sections A & B). Section A consists of a word list and minimal pairs while section B consists of a dialogue.

SECTION A

This section consists of two parts. Part I consists of a word list and part II consists of minimal pairs.

PART I (Reading of a Word List)

This part consists of 30 words.
Read each of the following word clearly and carefully.

1. glass	16. pretty
2. gentle	17. trick
3. pencil	18. rain
4. clever	19. road
5. usual	20. free
6. fall	21. narrow
7. low	22. truck
8. little	23. pray
9. tell	24. right
10. pull	25. grass
11. collect	26. really
12. flight	27. lorry
13. jelly	28. children
14. long	29. Europe
15. flu	30. married

PART II (Minimal Pairs)

This section consists of 10 minimal pairs.
Read each of the words clearly and carefully.

1. long	wrong
2. light	right
3. load	road
4. glass	grass
5. flock	frock
6. collect	correct
7. fly	fry
8. lane	rain
9. splay	spray
10. blush	brush

SECTION C (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

A proud parent

Mrs Randal: *Are all the children grown up now, Ruth?*
Mrs Reed: *Oh, yes. Laura is the cleverest one. She's a librarian in the public library.*
Mrs Randal: *Very interesting. And what about Rita?*
Mrs Reed: *She's a secretary at the railway station.*
Mrs Randal: *And what about Rosemary? She was always a very pretty child.*
Mrs Reed: *Rosemary is a waitress in a restaurant in Paris. She's married to an electrician.*
Mrs Randal: *And what about Jerry and Roland?*
Mrs Reed: *Jerry drives a lorry. He drives everywhere in Europe.*
Mrs Randal: *Really? Which countries does he drive to?*
Mrs Reed: *France and Austria and Greece and Russia.*
Mrs Randal: *And does Roland drive a lorry too?*
Mrs Reed: *Oh, no. Roland is a pilot.*
Mrs Randal: *Really? Which countries does he fly to?*
Mrs Reed: *Australia and America.*

*Source: Baker,A (1981) **Ship or Sheep?** (2nd edition) Cambridge University Press*

TEST 4

This test consists of four sections (Sections A, B, C and D). Sections A, B and C consists of a word list and minimal pairs while section D consists of a dialogue.

SECTION A
This section consists of two parts. Part I consists of a word list and Part II consists of minimal pairs.

PART I (Reading of a Word List)
This part consists of 30 words.
Read each of the following words clearly and carefully.

1. help	16. cab
2. keep	17. grab
3. swamp	18. rub
4. shop	19. rib
5. harp	20. lobe
6. pup	21. robe
7. dip	22. mob
8. flap	23. slab
9. leap	24. bribe
10. wrap	25. tube
11. tap	26. knob
12. ripe	27. globe
13. whip	28. scrub
14. nap	29. job
15. hope	30. curb

PART II (Minimal Pairs)
This part consists of 10 minimal pairs.
Read each of the words clearly and carefully.

1. cap	cab
2. pup	pub
3. rope	robe
4. mop	mob
5. tap	tab
6. lope	lobe
7. cup	cub
8. slap	slab
9. nip	nib
10. rip	rib

SECTION B
This section consists of two parts (Parts I & II). Part I consist of a word list and part II consists of minimal pairs.

PART I (Reading of a Word List)
This part consists of 30 words.
Read each of the following words clearly and carefully.

1. spike
2. pack
3. clock
4. sack
5. desk
6. rack
7. look
8. luck
9. shrink
10. work
11. brisk
12. bake
13. poke
14. brisk
15. walk
16. peg
17. rug
18. frog
19. sag
20. rig
21. bag
22. league
23. egg
24. swag
25. cog
26. dig
27. plug
28. vague
29. log
30. shrug

PART II (Minimal Pairs)
This part consists of 10 minimal pairs.
Read each of the words clearly and carefully.

1.	dock	dog
2.	leak	league
3.	back	bag
4.	duck	dug
5.	sack	sag
6.	tack	tag
7.	frock	frog
8.	clock	clog
9.	pick	pig
10.	broke	brogue

SECTION C
This section consists of two parts (Parts I & II). Part I consist of a word list and part II consists of minimal pairs.

PART I (Reading of a Word List)
This part consists of 30 words.
Read each of the following words clearly and carefully.

1. part	16. sad
2. vat	17. bird
3. but	18. lord
4. great	19. tied
5. write	20. hide
6. net	21. ride
7. root	22. fade
8. text	23. glad
9. shut	24. bead
10. coat	25. made
11. seat	26. good
12. crook	27. add
13. left	28. guide
14. treat	29. cold
15. hot	30. wide

PART II (Minimal Pairs)
This part consists of 10 minimal pairs.
Read each of the words clearly and carefully.

1. cart	card
2. feet	feed
3. heart	hard
4. mate	made
5. bent	bend
6. wrote	rode
7. right	ride
8. want	wand
9. root	rude
10. kit	kid

SECTION D (Dialogue Reading)
Read the following dialogue aloud. When you read the dialogue, do not bother reading the names of the participants.

Simon : *Hello, Pat*
Pat : *Hello, Simon*
Simon : *Do you remember Bob?*
Pat : *Do you mean Bob who drives a cab?*
Simon : *Yes. The one who always wears a cap in his cab.*
Pat : *Oh yes. He usually parks his cab near the park every time he goes to the pub.*
Simon : *What about him?*
Pat : *He had an accident on his way to work this morning.*
Simon : *Really? How did it happen?*
Pat : *He tried to avoid a hedgehog that came out of the shrub and hit a lamp post.*
Simon : *What bad luck! Is he alright?*
Pat : *He only suffered from a shock and minor cuts in his left leg and knee cap. He is now in the care of his brother, Greg.*
Simon : *Have I met Greg?*
Pat : *I don't think so. He had just got back from New York last week.*
Simon : *What does he do in New York?*
Pat : *He owns a rug shop called 'top Rug'. He also keeps a dog, an exotic carp and a frog which he caught from a swamp.*
Simon. : *What a peculiar man!*
Pat : *Do you plan to visit Bob?*
Simon : *Yes. In fact Mark, Roland and Craig are coming along this weekend. What about you?*
Pat : *I'm afraid not. I have to look after the kids since Pam will be attending a meeting in Europe this weekend.*
Simon : *Has Pam got back her handbag which she left in the pet shop?*
Pat : *Yes. She collected the handbag from the shop yesterday.*