THE WAY SOUTH VIETNAMESE PRONOUNCE ENGLISH

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DEDICATED TO VIETNAMESE LEARNERS OF ENGLISH

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Petre Ann Santry

Summary

Chapter 1 describes the subjects and the investigation procedure including the recorded interviews and equipment used. It also outlines the ten pronunciation lessons that were given.

Chapter 2 is a short account of the phonemes of Australian English.

Chapter 3 is an account of the phonemes of Vietnamese, summarising and comparing the analyses of Nguyễn Dang Liem and Lê Ba Thao (later form: Thao Lê).

Chapter 4 compares Australian English and South Vietnamese, discussing the postulated correspondence of the phonemes and predicting errors arising from L1 interference.

Chapter 5 is a detailed analysis of the English sounds spoken by the subjects, including descriptions of the results of the first and second tests. This chapter comprises detailed analysis of the vowels, diphthongs, consonants and consonant clusters pronounced by the subjects. The bulk of this chapter could have been contained in an appendix. A reader may choose to read only the first few pages and then go on to chapter 6.

Chapter 6 is a summary of the vowels, diphthongs and consonants analysed in chapter 5, but presented in a less detailed way, enabling easier access to the findings in chapter 5. This

chapter is especially useful for those who want to concentrate on the main points.

Chapter 7 gives some practical ideas for teachers of English pronunciation to Vietnamese people.

Chapter 8 describes the statistical agreement tests. It includes the percentages of difficulties and improvements of the vowels, diphthongs and consonants calculated overall and in word position, and the difficulties of the individual students.

Chapter 9 gives a description of the approxilect spoken by South Vietnamese speakers of English. It includes a consideration of predictable and non-predictable error types and provides some details about first language interference.

Chapter 10 provides an acoustical analysis of the vowels of South Vietnamese.

It is hereby declared that the
material contained in this thesis
has not been presented for the
award of any university, and
that to the best of my knowledge
the thesis contains no material
written or published by another
person except when due reference
is made in the text

TABLE OF CONTENTS

CHINA

HÃ-NỘI

HẢI-PHÒNG

LAOS

HUẾ

ĐÃ-NẴNG

KAMPUCHEA

ĐÃ-LẠT

THÀNH PHỐ HỒ-CHÍ-MINH
(Saigòn)

MỸ-THO

VIỆTNAM

CHAPTER 1

THE INVESTIGATION

1.0 Introduction

The main purpose of this study was to gain a practical understanding about the teaching of pronunciation to South Vietnamese speakers who use Australian English as a second language. This was done through a thorough investigation and detailed analysis comparing the pronunciation of both languages in order to help establish the nature of errors in the pronunciation of South Vietnamese people prior to, and following, a series of pronunciation lessons. This was done with two purposes in mind, one to find which sounds are most difficult to pronounce and what sounds are in fact used, and the other to see which errors are most readily corrected following instruction. A further analysis six months later was conducted to determine the longer term results.

Although empirical research of the 1970's began to show that the predictive power of contrastive analysis may be questionable (Odlin, 1989, p.17), causing it to almost fall into disuse, transfer affecting second language pronunciation has been less controversial (Odlin, 1989, p.23). In this paper, it has been of interest both to predict errors through analysis of the first language, and to establish the extent of their relationship to language transfer.

1

Although there was no analysis of prosodemes including intonation and stress, and less explicit teaching done in this particular area, students showed noticeable improvement. Other possible areas of investigation including a more detailed study of positive and negative transfer, differing periods of acquisition and the influences affecting language transfer such as language distance (see Odlin, 1989,p.32) or features of first and second language compared with features in creole, child languages and pidgin (as discussed by Kühlwein, 1984,p.80), were considered to be outside the scope of this study.

1.1 Investigation:

The investigation consisted of interviewing and recording ten South Vietnamese people of A.S.L.P.R. level 3 and above (tertiary level), who were interested in improving their pronunciation. They were then given ten one hour intensive pronunciation lessons which were followed by final recorded interviews and a short written questionnaire about their assessment of the classes.

The subject descriptions (fig.1) have been ordered according to an estimation of their total years of English instruction, which can only be approximate. It would also be impossible to know the quality of the programmes they attended in Vietnam and interim countries as well as in Australia. The subjects had been in Australia for from one to nine years and ranged from 24 to 36 years of age. Three had studied to tertiary

level in Vietnam, and two had achieved degree status in
Australia. There was only one female represented in the group.
These aspects did not seem to bear any relationship to their
pronunciation abilities.

Subject	Gender	Age	Years of Eng.instr.	Years in Aust.	Tertiary level V/N	Tertiary level Aust.
1.	male	25	2	1	2nd yr.	___
2.	male	27	2	4	___	3^{rd}yr.
3.	male	27	2	9	___	3yr.degree
4.	male	32	3	6	3yr.degree	1^{st}yr.
5.	male	25	3½	4	___	3^{rd}yr.
6.	female	27	4	4	___	2^{nd}yr.
7.	male	27	4	8	___	3yr.degree
8.	male	24	5	6	___	2^{nd}yr.
9.	male	36	5½	7	3yr.degree	1^{st}yr.
10.	male	26	6	3	___	2^{nd}yr.

FIGURE 1. Description of the subjects.

The subjects were not chosen because they had received no
prior instruction in pronunciation, but it was discovered
that, even though they had all received many English classes,
only subject 3 (see appendix A) had received just two
pronunciation classes as part of a ten weeks advanced English
course with the Council of Adult Education. This neglect of
pronunciation instruction in English language classes is
consistent with the findings of Del McNeil (1987, p.v) who

states "it would be reasonable to conclude that little attention
is paid by most teachers ..... to any of those aspects of
instruction specific to the needs of Vietnamese". Given that
these people have the highest pronunciation need of all language
groups entering Australia, both in number of those entering
Australia and in number of those with need (27% and 26%
respectively, according to the Victorian A.M.E.S. information
data), it seems extraordinary to find that earlier instruction
in this area did not occur.
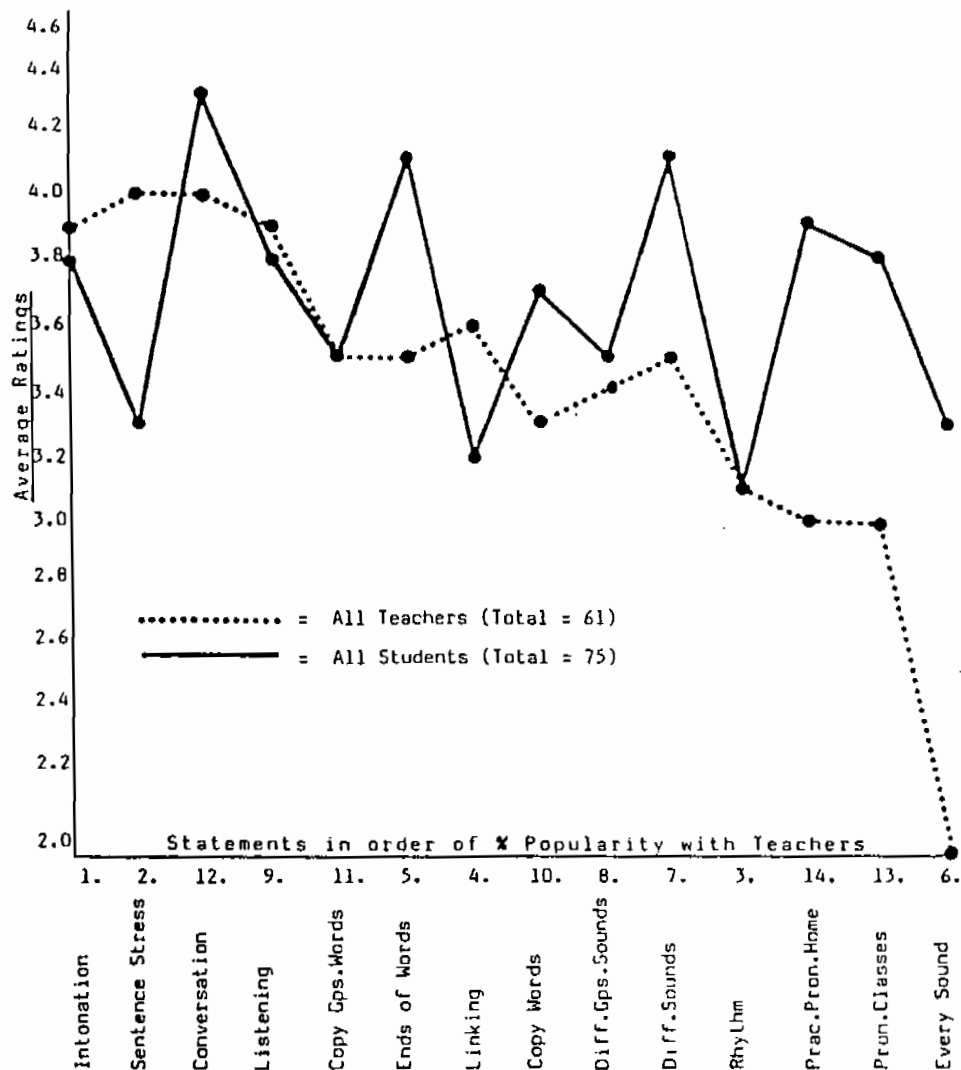
FIGURE 2. Comparative popularity of aspects of pronunciation
instruction between teachers and students(McNeil,p.59).

4

In the above survey involving comparative statements about
the popularity of different aspects of pronunciation instruction,
McNeil shows that there are statistically significant differences
in opinion between teachers' and students' priorities concerning
aspects of pronunciation instruction (see fig.2). In this
survey, 80% of the Vietnamese students who were difficult
to understand, and 31% of those who were easily understood,
expressed their desire for special pronunciation classes.
Teachers placed a greater emphasis on the importance of sentence
stress and linking than did students, and students showed
a greater emphasis on conversation, pronouncing the ends of
words, copying words, practicing all the different sounds,
pronunciation classes and practicing pronunciation at home.
Equal emphasis was placed on the need for practice of intonation,
listening, copying the ends of words and rhythm.

1.2 Equipment used for recording students

The recorder used was a small, portable "Panasonic Slim Line",
enabling ease of transport and ease of recording the subjects
in their homes. The microphone for the recordings was a
"Realistic" super cardoid dynamic 33-99 2B model which rejects
sounds from the back, as well as suppressing acoustic feedback.
The frequency response is 80 to 15,000 HZ, more or less'straight'
between 200 and 1,500 HZ. with +4 dB at about 3,000 HZ, falling
off at about 10,000 and giving -4 dB at about 15,000 HZ. This
gave an accuracy of recording sufficient to enable a good
auditory analysis, as well as the making of sonagrams.

5

1.3 <u>Interviews and questionnaire</u>

Both initial and final interviews contained an initial guided
conversation, followed by carefully devised word lists designed
to cover most combinations of English phonemes, finishing
with a short reading passage. Each interview lasted from about
fifteen to twenty minutes (these interview sheets can be seen
in appendix B). Apart from being designed to cover as many
phoneme combinations as possible, the word lists were arranged
to give uniformity and rhythm when read, making it easier
for the students, and more suitable for the making of sonagrams.
These lists began with single vowels and consonants being
read in random order, firstly checking that the subjects
understood the meanings and pronunciation of lesser known
words such as "bough" and "bow". Words that contained two
of the phonemes being tested (such as <u>bet</u> /bet/) were not
repeated, in order to save time.

Following this, the consonants and their clusters were presented
in word initial, medial and final position. As can be seen
in the word lists, all consonants can occur in word medial
position. Those not normally occurring in initial position
are /ʒ/ and /ŋ/, while those not occurring in final position
are /h, r, j, w/. Most consonant clusters occur in word medial
position but the majority do not occur in initial position.
Almost 50% do not occur in word final position.
In the recording of the subjects, subject 7 was extremely
tentative and nervous, believing he had a speech impediment.

The others ranged from a little nervous to quite confident, although all were aware that they were not as good as they would have liked, finding some of the words a bit strange. At times I prompted them, but this made little difference to their pronunciation. Words such as bath and bathe were difficult to differentiate and consonant clusters were a huge problem for them.

The final recorded interviews were much the same as the initial ones, but instead of "getting to know" the students and the way they perceived their language problems, the guided conversation involved discussing the way students felt the classes had benefited them. Some became very nervous and tense again. This was followed up by answering a brief questionnaire which asked the students to grade their pronunciation, the benefits obtained in the classes, and the amount of classes they saw as optimal.[1]

1.4 Lessons given

Ten one-hour lessons were given to the students in small groups ranging from three to five at a time, depending on their time availability. Some of these classes were conducted at university, and some in the students' homes.

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1. Copies of all the recordings are available upon request from the archives in the humanities department at Victoria University of Technology, Footscray.

7

Before the first lesson, I went through copies of the word lists and reading passage, listening to the students' recordings and colour coding their pronunciation. For example, a yellow marker indicated the phoneme articulation was too soft, a red marker indicated that the phoneme was omitted altogether and other kinds of mispronunciations were marked above with the phonetic symbol indicating the way the student had pronounced it. Where lack of word linking or inappropriate strength of articulation were creating problems, this was also indicated.

In the first lesson, I showed these to the students who responded very positively and in a rather excited way, as seeing the kind of things they were doing incorrectly in this way gave them some sort of idea about what was happening when they spoke English. For example, some were quite surprised to see the places they were not pronouncing sounds at all, and very interested to see that they were pronouncing certain sounds too softly. Following this, I was able to choose suitable lessons starting with simple sounds, later moving on to more complex consonant clusters and word linkings.

The texts used in these lessons were mainly from two excellent sources. The first one was English Pronunciation Illustrated by John Trim, which is delightfully illustrated by Peter Kneebone, concentrating on single sounds, and the second was Elements of Pronunciation by Peter Mortimer, which is accompanied with tapes. This one was very useful for more complex groups

of sounds as well as practise in word stress and linking.

I was able to cover most sounds and groups of sounds the students were previously having problems with, persevering with each person using diagrams, examples, pairwork, repetition and comparisons with their original language until all were able to demonstrate their ability to produce each sound more or less correctly. During these ten lessons, the students found that they were not only able to pronounce every kind of sound and cluster, but were able to be corrected far more easily than at first. This in itself was a huge leap forward for some of them, who had previously believed that it would be impossible for them to master this ability. Their main problem of course, was to retain this ability and then incorporate it into normal use. However, it was certainly encouraging for them to know that they now had a basis to work from, and that it was within their ability to slowly correct old habits. Some students claimed that people were understanding them more esily than before, which was very rewarding to hear.

The students' enthusiasm remained high throughout the course, although student number ten felt that his progress was impeded by the concern he felt for his seriously ill wife. Subject number six appeared to regress in the second test following a visit to his family in Vietnam, but the results of the third test did not seem to be affected. Subject number one was extremely shy and nervous, causing him to try too hard and

over-articulate his phonemes, but his progress was consistent
with the other students. All students, even subject number
nine who had relatively few errors at the beginning progressed
in their ability to pronounce phonemes correctly.

Those students with less pronunciation difficulties (such
as subject 3), were able to concentrate on stronger voicing,
intonation and word linking where necessary, meaning that
all were able to benefit in some way or another, according
to their perceived level of immediate need.

CHAPTER 2

PHONEMES OF AUSTRALIAN ENGLISH

2.0 Introduction

There is a considerable sociolectal variation in Australia, which has a continuum from high to low, according to Hammarstrom (1980, p.62). Pilch (1971, p.275) agrees with this, claiming there is a continuous scale of phonetic variation, from Educated Australian speech to the speech of people with lower and lower degrees of education and rank in the social hierarchy. Hammarstrom criticises Mitchell (1970, p.6) for establishing the widely accepted tripartite division of Cultivated (11%), General (55%) and Broad Australian (34%) pronunciation. I agree that there is no clear division between the sociolects, although for practical purposes it seems to be useful to refer to three sociolects.

As it will not be professionally appropriate for my subjects to use a broad sociolect and they will not often communicate with those who prefer to emulate a more educated Received Pronunciation (R.P), I consider it more suitable for them to approximate the "general" pronunciation.

2.1 Vowel Phonemes

Transcribing the vowels is more difficult than transcribing the consonants in English, because there are more sociolectal differences in the use of vowels than in the use of consonants.

Also, authors differ widely in their views of appropriate ways to transcribe the vowel phonemes, resulting in several possible approaches.

The approach I have chosen in the case of each vowel phoneme, is to choose the symbol that describes its main variant in Australian English. The transcriptions /i:/ and /u:/ versus /ɪ/ and /ʊ/ are redundant because it would be possible to write /i/ versus /ɪ/ or /i:/ versus /i/ and /u/ versus /ʊ/ or /u:/ versus /u/. The redundant transcriptions seem, however, to make the transcription somewhat clearer and the symbol /:/ is anyhow required for some of the other vowels. Thus, for transcription purposes, I have chosen /i:/ (as in beat) and /ɪ/ (as in bit), whereas I could otherwise have chosen /i/ versus /ɪ/ or /i:/ versus /i/. I have also chosen to use /u:/ (as in boot) and /ʊ/ (as in put), whereas I could otherwise have chosen /u/ versus /ʊ/ or /u:/ versus /u/.

/i:/ as in beat /bi:t/	/ə/ as in pretend /prətend/.
/ɪ/ as in bit /bɪt/	/3:/ as in bird /b3:d/
/e/ as in bet /bet/	/ɐ/ as in sofa /sa:fɐ/
/ɛ/ as in bat /bɛt/	/ɔ/ as in pot /pɔt/
/a:/ as in part /pa:t/	/ɔ:/ as in port /pɔ:t/
/a/ as in but /bat/	/ʊ/ as in put /pʊt/
	/u:/ as in boot /bu:t/

I shall discuss below only the vowels which I believe need

12

a comment.

/i:/

/i:/ (as in _feed_) is more diphthongised in Australian English
(A.E.) than it is in R.P.

/ɪ/

/ɪ/ (as in _hit_) is often closer in A.E. than the /ɪ/ in R.P.

/e/

/e/ (as in _net_) has a closer sound than in R.P., as pointed
out by Hammarstrom (1980,p.6). In words such as _net, then_
or _chess_ and /e/ is a more accurate transcription than the
/ɛ/ used by Mitchell and Delbridge (see figure 1, below).

/ɛ/

/ɛ/ (as in _hat_) is closer than the R.P./æ/, for example
/bɛt/, not /bæt/ as used by Mitchell and Delbridge (see figure
1, below).

Bernard (1963,p.346-352) and others have discussed the
possibility of an "extra phoneme" /æ:/ in the lengthening
of the vowel in _banner_ (someone who bans things) versus _banner_
(a kind of flag) with the shorter /æ/. Hammarstrom (1980
p.8) points out that this longer vowel, which also appears
in words such as _man_ and _bad_ should be /ɛ:/ in A.E. pronunciation
in preference to /æ:/.

13

/a/

/a/ (as in <u>but</u>) belongs to A.E. and R.P. The commonly used

transcription /ʌ/ is not correct (Hammarstrom,1980,p.11,13)

/a:/

/a:/ (as in <u>car</u>) is more accurate than /ɑ:/ which belongs

to R.P. (Hammarstrom,1980,p.9).

/u:/

/u:/ (as in <u>food</u>) is more diphthongised in A.E. than it is

in R.P. (Hammarstrom,1980,p.11).
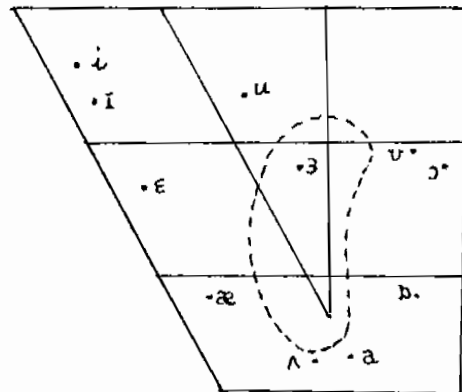
FIGURE 1. <u>The Vowels of Australian English</u>
(according to Bernard and Delbridge, 1970, p.46)

In reference to figure 1, Hammarstrom (1980, p.13) emphasises

that /ʌ/ not only is not applicable to A.E., but is also wrongly

placed, since phonetic symbols cannot be moved from their

designated positions in the quadrilateral. The /a/ seems to

be the right symbol for the relevant sound, but should be

moved somewhat to the left, and the /u/ should be moved to

the right. The /ɛ/ should be changed to /e/ and the /æ/ to

14

/ɛ/ and moved up. The /ɒ/ is wrong and should be replaced
by /ɔ/. However, this /ɔ/ is somewhat more open than the
/ɔ:/ which is transcribed by /ɔ/ in figure 1.

2.2 Consonant Phonemes

When compared to the vowels, there is relatively little phonetic
variability and little divergence from R.P. in A.E., meaning
that there is correspondingly little need to account for any
varying transcriptions.

	Bilabial or Labiodental	Dental	Alveolar or Post-alveolar	Palato-alveolar or Palatal	Velar	Glottal
Plosive	p/b		t/d		k/g	
Fricative	f/v	θ/ð	s/z	ʃ/ʒ		h
Affricate				tʃ/dʒ		
Semi-vocoid	w			j		
Nasal	m		n		ŋ	
Lateral			l			
Continuant			r			

FIGURE 2. The Consonant Phonemes of Australian English.

Plosives and /n/

/t/, /d/ and /n/ are alveolar and not dental as in most other languages.

/t/ (as in tap) is a voiceless plosive and can be released in all positions. There is a flapped, voiced /t/ allophone (not/d/) in better, shouted, get out etc. which is common in lower A.E. sociolects.

The plosives in word final position, such as cap, dab, pat, pad and sack can be pronounced without an audible release, unless the following word is beginning with a phoneme which favours a plosive release, for instance a vowel, as in put a cap on. However, the released variant is the most common.

/r/

/r/ is "linking" or "intrusive" more frequently in A.E. than in R.P. In Australia, such expressions as law and order, drawing or the car almost crashed, have typically an /r/ after the first vowel. Hammarstrom (1980, p.23) calls the /r/ an "unstable phoneme" rather than being a linking or intrusive one. However, an attempt to establish which is the most appropriate term is unimportant for our practical purposes.

/l/

/l/ is more velarised than in most other languages, particularly in final position.

CHAPTER 3

PHONEMES OF SOUTH VIETNAMESE

3.0 <u>Introduction</u>

There are three distinct, main dialects in the Vietnamese
language, the northern, central and southern. It is the South
Vietnamese (S.V.) variety which was used in this study as
the subjects were all born and educated in South Vietnam even
though two of them claimed that they spoke closer to the national
standard of the Northern Hanoi dialect which contains an extra
tone as well as some minor pronunciation differences.

Vietnamese is a monosyllabic tonal language, and the syllabic
nuclei (including vowels, diphthongs and triphthongs) are
always pronounced with an accompanying tone, of which there
are five in S.V. These tones are crucial to the understanding
of word meaning. Thomson (1959,p.457) describes these phonemes
as a combination of pitch height and contour. He says they
generally have somewhat lower allophones with /./ than with
/,/, somewhat higher allophones with /?/ and a greater range
between the lowest and highest parts of the syllabic contour
with /!/. Vowels are short with high tones, half-long with
low tones and long with mid-tones, according to Nguyễn

18

(1970,p.130) indicating that "length " is part of the tones

and not belonging to "segmental phonology".

There are only about 800-900 distinct syllables, not including

tones, but with the phonemic tones included, there are about

4,500 syllables in S.V. (De Francis,p.7).

3.1 Vowel Phonemes

There are twelve vowel symbols in the orthography of Vietnamese,

and eleven generally accepted single vowel phonemes. There

are different opinions about the number of vowel phonemes,

and way of describing them.

For example, Bửu (1990,p.8) says there are eleven vowel phonemes,

two of which are checked. He also says there are twenty-five

diphthongs and fourteen triphthongs (1990,p.9,10).

Vowels: /i, e, ɛ, a, ə, ʌ, ɔ, o, ɔ̆, u, ʉ/[1]

Diphthongs: /wi, we, wɛ, wa, wə, wɔ̆, ej, ɛj, aj, əj, ɔj, oj,

uj, ʉj, iw, ew, ɛw, aw, əw, ʌw, ɔ̆w, ʉw, iH, uH, ʉH/

Triphthongs: /wiH, wiw, wew, wej, waw, waj, wɔ̆w, wʌj, iHw,

ʉHw, uHj, ʉHj/

Checked vowels: /ʌ, ɔ̆/

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1. The order used by Bửu is as follows: /i, e, ɛ, ʉ, ə, a,
u, o, ɔ, ɔ̆, ʌ/. In each case however,I have changed the order
to be consistent with my own for greater ease of reference.

19

Lê (p.58), claims that there are eleven "short" vowels and
five "long" vowels. Later he refers to these as "diphthongised"
(p.75,76). He says four of the phonemes are checked.

Short vowels: /i, e, ɛ, a, ɞ, ʌ, ɔ, o, u, ɣ, ɯ/[1]

Long Vowels: /i:, ɞ:, ʌ:, u:, ɯ:/

Checked vowels: /ɞ, ʌ, ɞ:, ʌ:/

Nguyễn (p.129,132) says there are eleven vowels,
two of which are checked, and four diphthongs.

Vowels: /i, e, ɛ, a, ă, â, ɔ, o, u, ơ, ʊ/[2]

Diphthongs: /i, ău, ʊ, uə/

Checked vowels: /ă, â/

In the phonetic transcriptions of the Vietnamese vowels, I
disagree with Nguyễn's usage of Vietnamese orthography in
the cases of /ă, â, ơ, ʊ/, preferring to use the I.P.A. symbols
/ɞ, ʌ, ɣ, ɯ/ which enable greater ease of understanding
and comparison with vowel phonemes described by others.

From an auditory viewpoint, the symbol /ʉ/, preferred by Buu,
is close to the /ɯ/ used by Lê. However /ʉ/ is the symbol
for a more rounded vowel and is therefore not suitable from

---

1. Lê uses the order: /i, e, ɛ, a, ɞ, ɣ, ʌ, u, o, ɔ, ɯ/
2. Nguyễn uses the order: /i, e, ɛ, a, ʊ, ơ, u, o, ɔ, â, ă/.

the articulatory viewpoint.

He fails to explain his usage of the symbol /H/ in words where
I use /ʒ/. The symbol has been used by American linguists,
but a linguist such as Gleason (1969, p.319) uses it without
explaining its value. In the text, however, I prefer to use
the symbol /ʒ/ in its place.

All the writers agree that there are eleven single vowel
phonemes, but each choose different ways to describe them.
However, even though their transcriptions are different, they
actually seem to refer to the same sounds. In this study,
my preference is to follow the I.P.A., giving greater ease
of comparison with A.E. for which it is usually used.

In the case of the diphthongs and triphthongs, at first glance
there appears to be a great difference, but in fact this is
more a case of difference of interpretation, than of
disagreement. Bửu claims there are twenty-five diphthongs
and fourteen triphthongs, whereas Lê describes only five
diphthongs, and Nguyễn, just four. In fact, the diphthongs
and triphthongs of Buu are roughly equivalent to the sounds
that are described in detail as allophones by Lê and Nguyễn,
but because they are written in a way that is intended for
students to use with an accompanying tape, they are not
phonetically described.

21

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                Front      Central    Back

High        i              ɯ      u

High-mid        e        ʌ  ɤ      o

Low-mid          ɛ        ɐ          ɔ

Low                    a
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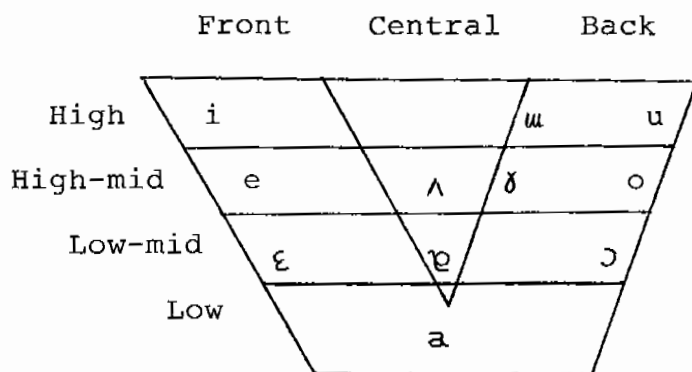
FIGURE 1. <u>The Vowels of South Vietnamese</u>
(according to Lê,1973,p.62)

On the whole I agree with Lê's diagram (figure 1), although

I believe the /a/ is more fronted. The symbols I prefer to

use in this study are the same as those used by Le, but ordered

as follows:

/ i, e, ɛ, a, ɐ, ʌ, ɔ, o, u, ɤ, ɯ/.

/i/

Lê (1973,p.62,63) says /i/ is realised by three allophones:

/ij/ (as in <u>khi</u> /xij/) which is lax and diphthongised in open

syllable.

/i/ (as in <u>tim</u> /tim/) before / p, t, m, n/.

/i/ (as in <u>bich</u> /bic/) which is more relaxed and open, elsewhere.

Nguyên (1970,p.131,132) says /i/ is realised by four allophones:

/i_1/ (as in <u>dip</u> /jip /) after /c, j, ɲ/ and before /p, w,

m/.

/i_2/ (as in <u>chin</u> /cin/) after /c, j,ɲ/and before/t, n/.

/i_3/ (as in <u>liêm</u> /lim/) except after /c, j,ɲ/, final and

22

before /p, w, m/.

/i₄/ (as in <u>tin</u> /tin/) except after /c, j, ɲ/ and before /t, n/.

/i/ is considered to be the main variant of this S.V. phoneme and is almost the same as A.E. /ɪ/ (as in <u>fit</u> /fɪt/).

/e/

Lê (p.63) says /e/ is realised by two allophones:

/e/ (as in <u>het</u> /het/).

/ej/ (as in <u>che</u> /cej/) which is long and realised as a diphthong.

Nguyễn (p.132) says /e/ is realised by three allophones:

/e₁/ (as in <u>bếp</u> /bep/) before /p, w/ and final.

/e₂/ (as in <u>em</u> /em/ before /m/.

/e₃/ (as in <u>ten</u> /ten/) before /t, n/.

/e/ is close to A.E. /e/ (as in <u>bet</u> /bet/), but longer.

/ɛ/

Lê (p.63) says /ɛ/ is realised by three allophones:

/ɛ°/ (as in <u>nghe</u> /ŋɛ°/), realised as a diphthong in open syllable.

/ɛ/ (as in <u>chép</u> /cɛp/) which is short and close.

/ɛ/ which is open, elsewhere, except before /t, n/.

Nguyễn (p.132) says /ɛ/ is realised by four allophones:

23

$\angle\varepsilon_1 7$ (as in h<u>e</u>p /hɛp^V/) before /p/.

$\angle\varepsilon_2$/ (as in h<u>eo</u> /hɛw/) before /w/.

$\angle\varepsilon_3$/ (as in t<u>em</u> /tɛm/) before /m/.

$\angle\varepsilon^ə7$ (as in n<u>ghe</u> /ŋɛ7) final and before /k, ŋ7.

/ɛ/ is close to A.E. /ɛ/ (as in f<u>at</u> /fɛt7), not /æ/as in R.P.

/a/

Lê (p.70,71) says /a/ is realised by two allophones:

/a̰7 (as in m<u>ắc</u> /ma̰k7) which is retracted before /k, ŋ/.

/a7 (as in h<u>ạt</u> /hat7) elsewhere.

Nguyễn (p.133) says /a/ is realised by four allophones:

/a$_1$7 (as in <u>thac</u> /t^{h}at´7) before /p, k/ and after /t^h, c, j, ŋ, h/.

/a$_2$7 (as in <u>tha</u> /t^{h}a7 final and before /w, j, y/, after /t^h, c, j, ŋ, h/ and elsewhere.

/a$_3$7 (as in <u>ham</u> /ham7) before /m/, after /t^h, c, j, ŋ, h/ and elsewhere.

/a$_4$7 (as in <u>cam</u> /kam7), elsewhere.

/a/ sounds close to A.E. (as in <u>car</u> /ka:7) but higher, almost as in R.P. English <u>fat</u> /fat7.

24

Lê (p.69,70) says /ɛ/ occurs only before /p, k, ŋ/ as a "checked" vowel (meaning it is always followed by a final consonant phoneme). This phoneme is realised by two allophones:

/ɛ́/ (as in <u>khách</u> /xɛk/), which is open before velars.

/ɛ́/ (as in <u>tắt</u> /tɛt/), which is close, elsewhere.

Nguyễn (p.133) prefers to use the Vietnamese /a/ instead of the I.P.A. /ɛ/, but agrees that this checked phoneme has two allophones.

/ă₁/ (as in <u>át</u> /ăk⁻/) before /k, ŋ/.

/ă₂/ (as in <u>ap</u> /ăp⁻/) before /p, w, m, t, n/.

Lê (p.70) says /ʌ/ (as in <u>cất</u> /kʌt/) occurs only as a checked vowel before /p, k, ŋ/ and has only one allophone.

Nguyễn (p.132) says this this checked vowel is realised by two allophones. He prefers to use the Vietnamese /â/ instead of the I.P.A. /ʌ/. The allophones are:

/â₁/ (as in <u>phẩy</u> /ˈfaj/) after /b, f, w, m, c, j, l, ɲ, x, g, ŋ/ and before /j/.

/â₂/ (as in <u>tây</u> /ˈtâj/), after /t, s, tʰ, d, t, s, r, n, k, h/, before /j/ with heavy stresses and elsewhere.

In some morphemes or careless speech /ɛ/ and /ʌ/ are often in free variation. For example <u>tới tập</u> can be pronounced as

25

/tɤj tʌp/ or /tɤj tɐp/ (Lê,p.70).

/ɔ/

Lê (p.67) says /ɔ/ (as in son /sɔn/) is realised by three allophones:

/ɔᵊ/ (as in khó /x ɔᵊ/) which is realised as a diphthong in open syllable.

/ɔ̟/ (as in hom /hɔ̟m/) which is short before /p, m/.

/ɔ/ (as in son /sɔn/), which is short and retracted before /j, ŋ, k/.

Nguyên (p.134) agrees this phoneme has three allophones:

/ɔ₁/ (as in voi /vɔj/) before /j, ŋ/.

/ɔ₂/ (as in giọt /jɔkᵛ/) before /k/.

/ɔ₃/ (as in góp /gɔp/), final and before /p, m/.

This phoneme is somewhat more open than A.E. /ɔ/ (as in not /nɔt/).

/o/

Lê (p.66) says /o/ is rounded and realised by two allophones:

/oʷ/ (as in cô /koʷ/) which is lax and realised as a diphthong in open syllable.

/o/ (as in tôm /tom/) before /p, k, m, ŋ/.

Nguyên,(p.134) says /o/ has three allophones:

/o₁/ (as in khôn /xoŋ/) before /ŋ/.

/o₂/ (as in ngô /ŋo/), final and before /m, j, k/.

/o₃/ (as in hộp /hop^V/) before /p/.

This phoneme is similar to A.E. /ɔ/ (as in caught /kɔt/) in its non-diphthongised forms.

/u/

Lê (p.65,66) says /u/ is realised by three rounded, lax allophones:

/u^W/ (as in chú /cu^W/) which is diphthongised in open syllable.

/u̞/ (as in chung /cu̞ŋm/) which is open before /ŋ/.

/u/ (as in lúc /luk/) which is close, elsewhere.

Nguyễn (p.134) agrees that this phoneme has three allophones:

/u₁/ (as in lui /luj/) before /j/.

/u₂/ (as in sup /sup^V/), final and before /p, m/.

/u₃/ (as in lúc /luk'/) before /k, ŋ/.

This phoneme is close to R.P. /uː/ (as in food /fuːd/) and A.E. /ʊ/ (as in would /wʊd/).

/ɤ/

Lê (p.68,69) says /ɤ/ is realised by three allophones:

/ɤ^ɤ/ (as in thơ /thɤ^ɤ/) which is diphthongised.

/ɤ̞/ (as in choi /cɤ̞j/) which is short.

/ɤ/ (as in lớp /lɤp/) which is short and retracted.

Nguyễn (p.133,134) says this phoneme is realised by two allophones. He prefers to use the Vietnamese /ơ/ instead of the I.P.A. /ɤ/. The allophones are:

/ơ₁/ (as in lớp /lơp/) before /p, m, k, ŋ /.

/ơ₂/ (as in tơ /tơ/ final before /j/.

/ɤ/ sounds auditorially more like /ə/ or even /œ/, but as most use /ɤ/, I shall use it too. It is unrounded.

/ɯ/

Lê (p.67,68) says /ɯ/ is realised by two allophones:

/əɯ/(as in xư /səɯ/) which is a rising diphthong in open syllable.

/ɯ/ (as in đức /dɯk/) before /k, ŋ , w/.

Nguyễn (p.133) says this phoneme is unrounded and realised by three allophones. He prefers to use the Vietnamese /ư/ instead of the I.P.A. /ɯ/. The allophones are:

/ư₁/ (as in chứng /cưŋ/) after /c, j, ŋ/ and before /k, ŋ/.

/ư₂/ (as in dưới /jưj/) after /c, j, ɲ/ and before /j/ or initially before /p, m, k, ŋ/.

/ư₃/ (as in tươi /tưj/) after all consonants except /c, j, ɲ/ or initially before /w, j/, and finally.

/ɯ/ is closer to /ʉ/ from an auditory viewpoint (see above,

28

p.10) but I will use /ɯ/ as most others do.

The front vowels /i, e, ɛ/ and the back vowels /ʌ, o ,u ,
ɣ, ɯ/ are lax and open, all being diphthongised in open syllable.
The central phonemes /a, ɐ, ʌ/ occur before finals /p, t, k,
m, n, ŋ , w, j/.

There are five long vowel phonemes realised as mono-phonematic
diphthongs /i:/, /ê:/, /ʌ:/, /u:/, /ɯ:/ (Lê,p.72). As stated
above (p.9) they appear with mid-tones.

/i:/

Lê (p.72) says /i:/ is realised by three allophones:
/iᵉ/ (as in <u>tiêu</u> /tiᵉw/).
/iᵊ/ (as in <u>chia</u> /ciᵊ/) in open final syllable.
/iᵉ/ (as in <u>chiếc</u> /ciɐk/).

/i:/ sounds similar to A.E. /iᵊ/ (as in <u>beer</u> /biᵊ/).

/ê:/

Lê (p.76) says /ê:/ is realised by two allophones:
/ɐⁱ/ (as in <u>ách</u> /ɐⁱc/) before palatals.
/ɐᵘ/ (as in <u>lòng</u> /lɐᵘŋm/) before double closure velars.

/ʌ:/

Lê (p.76) says /ʌ:/ is realised by two allophones:
/ʌˡ/ (as in <u>xech</u> /sʌⁱc/) before palatals.

29

/ʌᵘ/ (as in đồng /dʌᵘŋ̂m/) before velars.

In rapid or careless speech /ɛ:/ and /ʌ:/ are in free variation.

/u:/

Lê (p.74) says /u:/ is realised by three allophones:

/uᵉ/ (as in nguôi /ŋuᵉj/) before /j/.

/uₒ̵/ (as in buồm /buₒm/) before /m/.

/uᵊ/ (as in chuồng /cuᵊŋ/) before velars or in open syllable.

/u:/ sounds like A.E, /u:/ (as in sewer /su:ɘ/).

/ɯ:/

Lê (p.73,74) says /ɯ:/ is realised by two allophones:

/ɯᵉ/ (as in cước /kɯᵉk/) unrounded for /ɯ/, and before a velar stop.

/ɯᵊ/ (as in tươi /tɯᵊj/) unrounded for /ɯ/, and before /ŋ, m, j/ in open syllable.

Nguyễn (p.137,38) has a different approach when describing the long vowels and diphthongs. He says he agrees with Thomson 1959,p.454-76) that S.V. presents indeterminacy, multiple analysis, and asymmetry. Because of this, and for reasons of practicality in contrasting the English and Vietnamese vowel systems, Nguyễn has treated homorganic diphthongs /i, e, ɛ, ʊ, ơ, u, o/ as single vowels, and phonetic diphthongs

30

/uɐ, ʊˑɤ, iɤ, ău/ as phonemic units when followed by a consonant.
Also, other phonetic diphthongs (such as aɯ, aj, ɔj, uj, iɯ
etc.) are treated as vowels and semivowels when they cannot
be followed by a consonant.

Within the framework of this thesis it has not been possible
to solve the problems of the minor differences between Lê
and Nguyễn. Since both authors have been meticulous in their
description of the variants, I can be confident that their
descriptions contain the details needed to establish
correspondences between variants in the subjects' approxilect,
and variants described by Lê and Nguyễn. In other words, the
account I have just given will be adequate for my purpose.

Neither Bửu, Lê nor Nguyễn are able to give absolute or
conclusive answers to the question of the number and description
of phonemes in the Vietnamese inventory of vowels.

3.2 Distribution of Vowels

Le (p.65) says the front vowels /i, e, ɛ/ have diphthongisation
in open syllable. In closed syllable they are realised as
monophthongs. They have a wide distribution after initial
consonants and are restricted before final consonants.
The central vowels /ʌ, ɤ, a/ have a symmetry of distribution
before final consonants /p, t, k, m, n, ŋ, w, j/ and are
sometimes collapsed into the same sound in rapid speech.

31

The back vowels /o, ɔ, u, ɣ, ɯ/ have diphthongisation in open syllable, and the lax and open alveolar finals are often replaced by their velar counterparts.

3.3 Consonant Phonemes

There are seventeen consonant symbols in the orthography of Vietnamese and twenty-one phonemes, unless you choose to consider /p/ as a phoneme and not an allophone, in which case there are twenty phonemes. All authors agree that /w/ and /j/ (as in oai /waj/) are semi-vowels, but there is some disagreement as to the description of some of the other phonemes, which are described below (see fig.2).

Two prominent features in the secondary articulation of Vietnamese that are worthy of note are simultaneous double closure and labialisation (Lê, p.43, 44).

There are two types of double closure occurring after back vowels:

/k͡p/ double closure plosive which is in complementary distribution with /k/. This consonant may disappear when the lexeme receives a sắc tone.

/ŋ͡m/ double closure nasal. This consonant is more closed when the lexeme receives a nặng tone (Lê, p.44).

The other secondary feature of articulation is labialisation, which is the modification of an initial consonant by the

32

rounding of the lips. It is phonemically significant when occurring before non-back vowels (as in <u>qua</u> /kwa/). The following consonants have labialisation: /tw, thw, dw, tw, cw, kw, sw, ɣw, hw, nw, ɲw, ŋw, lw, jw/ (Lê,p.44).

Bửu (p.11,12) says there are 21 consonant phonemes: /b, t, tʔ, ṭ, d, c, k, f, v, s, ʃ, x, g, h, m, n, ɲ, ŋ, l, r, j/ [1] yet, on the following page, he uses /p/ (as in đáp /dap/). He also uses the semi-vowel /w/ in many of the diphthongs and triphthongs described (see his description of vowels page 10).

Lê (p.42,43) claims there are 22 consonant phonemes: /b, t, th, ṭ, d, c, k, f, v, s, ʃ, x, ɣ, h, m , n, ɲ, ŋ, l, r, w, j/. He sees /p/ as an allophone of /b/.

Nguyễn (p.16) says there are 22 consonant phonemes: /p, b, t, tʰ, ṭ, d, c, k, f, v, x, s, ʂ, g, h, m, n, ɲ, ŋ, l, ř, w, j/.[2]

The symbols I prefer to use in this study are ordered as follows: p /p/, b /b/, t /t/, th /tʰ/, t /ṭ/, d /d/, ch /c/, k, c /k/, , ph /f/, v /v/, s /s/, s /ʃ/, kh /x/, d, g /ɣ/, h /h/, m /m/, n /n/, nh /ɲ/, ng /ŋ/, l /l/, r /r/, u, o /w/, d, gi /j/.

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1. Bửu uses the order: /b, t, d, v, ʃ, s, m, n, l, r, h, tʔ, ṭ, f, ŋ, c, x, j, g, ŋ, k/.
2. Nguyễn uses the order: /p, b, t, tʰ, d, ṭ, c, k, f, v, s, ʂ, x, g, h, l, m, n, ɲ, ŋ, r, w, j/.

		Bilabial	Labiodental	Dental	Retroflex	Alveolar	Velarl	Glottal
Plosives	plain	p		t	t		k	
	aspirated			th		c		
	voiced	b		d				
Fricatives	voiceless		f	s	ʃ		x	h
	voiced		v				g	
Lateral						l		
Nasal		m		n		ɲ	ŋ	
Trill					r			
Semi-vowels		w				j		

FIGURE 2. <u>The Consonants of Vietnamese</u> (similar to Nguyễn).

/b/

/b/ (as in bộ /boʔ/) is a voiced implosive bilabial plosive, occurring in initial position. It is preglottalised and often imploded, tending to be explosive when occurring in rapid speech or preceded by a bilabial (as in lớp ba /lɛp ba/).

Lê (p.47) says /b/ has two allophones:
/b/, tending to be explosive in rapid speech when preceded by a bilabial (as in làm bộ /lam boʔ/).
/p/ (as in núp /nup/),voiceless and unreleased in final position.

Nguyen (p.20) says /p/ (as in hop /hop/) is a voiceless, unreleased, bilabial final plosive. It is commonly described as an allophone of /b/.

/th/

/th/ (as in tha /tʰa/) is a voiceless, aspirated apicodental plosive which is released with a very audible puff of air.

/d/

/d/ (as in di /dij/) is a voiced, preglottalised, apico-alveolar plosive which is often imploded, occurring in initial position.

/t/

/t/ (as in ta /ta/) is a voiceless, unaspirated dental plosive.

/ʈ/

/ʈ/ (as in trai /ʈaj/) is a voiceless, apical alveolar retroflexive plosive which is slightly affricated. It occurs in initial position, and is replaced by /c/ in lower sociolects of S.V.

/c/

Lê, (p.48) says /c/ is a voiceless lamino-palatal plosive which is unreleased in final position. He says it has two allophones:

/c/ (as in chọn /cɔn/) in initial position.

/c-/ (as in xích /sic-/) unreleased in final position.

35

Lê (p.49) says /c/ and /t./ are very similar, the main difference being that /c/ is retroflexive. In S.V. /t./ is replaced by /c/ in lower sociolects.

/k/

/k/ (as in cúc /kuk^P/)is a voiceless, unaspirated, dorsovelar plosive. Lê (p.49) says this phoneme has three allophones and five diallophones which are unreleased in final position (using Hammarstrom's terminology,1976,p.4).

/k̟/   (as in ky /k̟ij/) initially

		[k]	(as in cam /kʌm/) initially released.
/k/	/k/	[k⁻]	(as in bac /bʌk/) final and unreleased.
		[k]	(as in cư /kɰ/) initially released.
	/k̲/	[k̲]	(as in chức /cɥk-/) finally unreleased.
		[k̂p]	(as in lúc /luk̂p/) final double closure velar.

Nguyễn (p.21) says this consonant is voiceless dorso-velar, realised by five allophones:

/k/ (as in ca /ka/) in initial position.

/k^P/ (as in cúc /kuk^P/) with simultaneous bilabial closure, final after /u, ɯ/.

/k^w/ (as in hột /hok^wv/) strongly labialised, final after /o/.

/k^ʷ/ (as in ngọt /ŋɔkt^w/) weakly labialised, final after /ɔ/.

/k⁷/ (as in lức /lɯk^⁷v/) unreleased, final except after /u, w, o, ɔ/.

36

/f/

/f/ (as in pha /fa/) is a voiceless labio-dental fricative occurring in initial position.

/v/

/v/ (as in v̀a /va/), like /f/, is a voiced, labio-dental fricative which may be replaced by the semi-vowel /j/ in careless speech.

Nguyen (p. 21) says /v/ has basically two variphones in S.V., according to the circumstance of the idiolect:
/vʲ/ palatalised, which is the most common.
/ʔbʲ~bʲ/ preglottalised or not, palatalised stop, which seems to be used in spelling pronunciation.

/s/

/s/ (as in xa /sa/) is a voiceless alveolar fricative, occurring only in initial position. It is dental in S.V. because in its production the air stream is forced out through closed teeth.

/ʃ/

/ʃ/ (as in son /ʃɔn/) is a voiceless retroflex unrounded fricative in initial position.

/x/

Lê (p.52) says /x/ is a voiceless dorsovelar unrounded fricative.

It is realised by three allophones when combined with
front, central and back vowels. Lê does not provide any actual
examples of these allophones.

Nguyễn (p.22) describes this consonant as having two allophones:
/x/ (as in khi /xi^i/), initial after final /k/ or /ŋ/ in the
previous syllable.
/^{k}x/ (as in một khi /mok^{wv} ^{k}xi^i/), initial after final /k/
or /ŋ/ in the previous syllable.

/ɣ/

Lê (p.52) says /ɣ/ is a voiced dorsovelar fricative which
is sometimes produced as a stop /g/, especially after /ŋ/.
It is manifested by three allophones.
/ɣ̟/ (as in ghi /ɣ̟i/).
/ɣ/ (as in gam /ɣɐm/).
/ɣ̠/ (as in gù /ɣ̠u/).

Nguyễn (p.22) says /g/ is realised by two allophones:
/g/ (as in ghe /gɛ/) initially, except after a final /k/ or
/ŋ/ in the previous syllable.
/g/ (as in chiếc ghe /ciɜk˦ gɛ/), initial stop after /k/ or
/ŋ/.

/h/

/h/ (as in hang /haŋ/) is a voiceless glottal fricative in

initial position.

/m/

/m/ is a voiced bilabial nasal with the air stream moving
out through the nose. It has two positional variants:
/m/ (as in ma /ma/), initially released .
/m·/ (as in làm /lam·/), weak and finally released.

/n/

Lê (p.54) says /n/ is a voiced, alveolar nasal with the air
stream moving out through the nasal cavity. It is realised
by two allophones:
/n/ (as in nói /nɔj/), initially released.
/n·/ (as in tin /tin·/), unreleased and final.

Nguyễn (p.22,23) says /n/ has three allophones:
/n/ (as in nên /nen/), voiced apico-dental nasal which is
initial and final, except before /t., d/ or a pause.
/n/ (as in nên di /nen ʔdi^i/), voiced apico-alveolar nasal
which is final before /d/.
/n/ (as in nên tra /nen .a/), voiced apico-alveolar retroflex
nasal which is final before /t./.

/ɲ/

/ɲ/ (as in nha /ɲa/) is a voiced palato-nasal with the air
stream moving out through the nasal cavity, occurring initially.

39

/ŋ/

Nguyễn (p.23) says /ŋ/ is voiced dorso-nasal and realised by four allophones:

/ŋ/ (as in ngang /ŋaŋ/) initial and final except after /u, w, o, ɔ/.

/ŋᵏ/ (as in dung /duŋᵏᵛ/) with simultaneous labial closure, final after /u, w/.

/ŋʷ/ (as in mon /moŋʷ/) with strong labialisation, final after /o/.

/ŋʷ/ (as in ngon /ŋɔŋʷ/) with weak labialisation, final after /ɔ/.

/l/

/l/ (as in lúc /luk/) is a voiced alveolar lateral. The area of contact between the toungue tip and the roof of the mouth is wide, with the air stream escaping through the sides of the tongue.

/l/ is not released as it is in English.

/r/

Nguyễn (p.23) says /r/ is a voiced alveolar retroflexive vibrant in initial position. It has three variants:

/r/ (as in rồi /ȓoj/) commonly produced by a series of rapid taps or trills

/ř/ (as in răng /řɛŋ/) which is produced by a single tap.

/z/ (as in ra /za/) where the airstream moves out with friction.

Lê (p.56) says /w/ (as in uy /wij/) is a bilabial semi-vowel in both initial and final position. In S.V. it is realised as /ɣw/.

Nguyễn (p.23) says this phoneme has three allophones:

/u̯/ (as in tuàn /tu̯ʋŋ/)which is a close high back rounded vocoid, initial before /ʋ/ and final after /i, u, â/.

/u̯/ (as in toa /tu̯a/) which is an open high back rounded vocoid, initial before syllabics other than /ʋ/, and final after /e/ and /â/.

/o̯/ (as in heo /hɛo̯/) which is a close mid back rounded vocoid, final after /ɛ/ and /a/.

/j/

Lê (p.56) says /j/ is a palatal semi-vowel with two allophones:

/ɟ̯/ (as in dê /jej/) which is a high front fricative.

/j/ (as in da /ja/) low and less front, occurring with non front vowels.

Nguyễn (p.23,24) says this semi-vowel is a front unrounded vocoid which is lamino alveolar. It is realised by two allophones:

/i̯/ (as in lui /lui̯/) where it is close, initial before /i, ɯ/ and final before /u, ɯ/.

/ɪ̯/ (as in gió /ɪ̯ʋCˉ/) where it is open, initial except before /i, ɯ/, and final after /o, ɣ, a, ʌ/.

41

3.4 Distribution of Consonants

All consonantal phonemes excepting /p/ can occur in initial word position and those that can appear in final position are /p, t ,c, k, m, n, ɲ, ŋ, w, j/. Most authors agree that all the final consonants are unreleased (e.g. Thomson,1965, Lê,1973 and Mannell,1968). The phonemes /v, t^c, ʃ, r/ disappear in the phonemic inventory of lower sociolects in S.V. (Lê,p.39).

Unlike the vowels in Vietnamese, the consonants do not have many allophones, and there are no consonant clusters. Allophonic variations of the consonant phonemes are caused by their vocalic environment.

There is not much allophonic realisation as in the case of English which may be due to the absence of consonant clusters.

Thomson (p.455) says that in S.V., a syllable is a fraction of utterance beginning with an onset of stress and ending immediately before the next onset of stress, or before a pause.

Nguyễn (p.135) says the formula of the canonical forms of the Vietnamese syllable is shown as follows:

$$\pm\, O \left[+\, C \pm W\right] + N\, [V] \pm T \left\langle {C \atop S} \right\rangle$$

This formula includes an optional onset slot containing a consonant and optional semi-vowel. The nucleus contains a diphthong or vowel, and the terminus contains an optional consonant or semi-vowel.

consonant or semi-vowel.

A less complicated and more explicit formula however, would use more recent conventions

$$(C(\left\{\begin{matrix} j \\ w \end{matrix}\right\}))\left\{\begin{matrix} VV \\ V \end{matrix}\right\}(\left\{\begin{matrix} j \\ w \\ C \end{matrix}\right\})$$

In this formula C represents a consonant, V a vowel, VV a diphthong and /j,w/ are semivowels.

CHAPTER 4

COMPARISON OF AUSTRALIAN ENGLISH AND SOUTH VIETNAMESE.

4.0 <u>Correspondences between L1 and L2</u>

Earlier studies in contrastive analysis established correspondences between source language and target language (L1 and L2), claiming that a study of the vowel and consonant systems could predict the errors made by the learners.

Corder (1981, p.47) says that the degree of mismatch (between the ability of the learner and the target language) is a "quantitative" assessment and the nature of mismatch is a "qualitative" assessment, a problem of diagnosis. He goes on to say (p.52) that effective remedial teaching requires that we should understand the nature of the pupils' difficulties by understanding the cause of the error, and transfer this knowledge to the student. In the present study, the causes of errors are shown. This knowledge has certainly made classes more meaningful to both teacher and students, but to what extent this has been helpful to the students' learning is unknown.

Later orientations have shown that all language errors cannot be predicted, so that the importance of interference has tended to become minimised. Krashen (1988, p.64) asks where first language interference fits in the theoretical model for second language performance, given that many errors are not traceable

44

to the firt language, but are common to second language
performers of different linguistic backgrounds. He goes on
to say (p.65) that first language influence appears to be
the strongest in word for word translations of phrases, and
weaker in bound morphology (e.g. omissions of plurals on nouns).

I deduce that in this case there will be strong L.1 interference
in the pronunciation of Vietnamese learners of English which
will be compounded by other factors such as their first L2
learning environments being "acquisition poor", together with
other problems related to morphology (such as plural endings
and verb endings) which may not be due to L1 interference
(Krashen p.66). I would therefore predict that in comparing
L1 and L2, some of the results of this comparison will be
able to explain some of the pronunciation errors of the learners.
However, there will also be errors that could not be predicted.

According to Hammarström (1978), "postulated correspondences"
between two languages are established on the basis of properties
judged by the linguist to be similar, but without consideration
of the "empirical correspondences" based on the errors of
the learners. It would be of some interest to see exactly
how far postulated correspondences can be used as a kind of
hypothesis to be tested by the later auditory analysis. It
is certainly helpful to know just what probable errors to
"listen for", even though a good auditory study should reveal
other errors of the sounds involved.

When phonemic systems are compared, it is not usual to include allophones, but as they are important in this study of learners they are also included. In order to interpret the findings of both Lê and Nguyễn more accurately, I have recorded three South Vietnamese speakers who have approximately the same way of pronouncing, to read samples of each allophone.

Because this study is to be used only as a reference for the main purpose of this thesis, I accept both authors when they agree, and when one has additional allophones, I accept that also. However, when the authors appear to disagree, I will make my own decision based on my recordings.

4.1 Possible interference of Vietnamese tones and shortened vowel sounds

Because Vietnamese is a tonal language, meaning that pitch is used in individual syllables to contrast word meanings, and English is a language of intonation where pitch is particularly important for longer segments than words, there will be difficulty in the appropriate use of intonation in word syllable and contrasting consonants.

Nguyen Dang Liêm (p.131) says that S.V. vowels are shortened when followed by final stops, semi-vowels or nasals, meaning that there could be problems of vowels being unduly shortened when they are followed by a consonant.

46

Generally, the correct use of English intonation and stress
will probably be difficult for Vietnamese learners, but this
problem is outside the scope of this thesis.

4.2 Vowel phonemes.

The A.E. vowels are shown in figure 1. With regard to the
allophones in which the authors appear not to agree (see fig.5)
I have resolved the problem in the following way:

/i/

In the case of this phoneme, Le hears three allophones whereas
Nguyen hears four. However, I hear /ij/ (as in khi), (Le),
as a separate allophone, meaning that I hear a possible five
allophones.

FIGURE 5. Australian English vowels and variants.

47

/ʌ/

In the case of this phoneme, Le hears one allophone, and Nguyen hears two. However, I hear /ʌ/ (as in cất) (Lê), which is shorter, as a separate allophone, meaning that I hear a possible third allophone.

/ɯ/

In the case of this phoneme, Le hears two allophones, and Nguyen hears three. However, I hear /ɤ̆/ (as in xư) (Lê) which is in open syllable, as a separate allophone, meaning that I hear a possible fourth allophone.

FIGURE 2. South Vietnamese vowels and variants (Lê & Nguyễn).

4.3 Postulated correspondence of vowels

In contrasting the two quadrilaterals (figs 1&2) to predict production problems of S.V. learners of English, firstly it is clear that there will be problems with A.E. phonemes that have no S.V. correspondence. These are:/I/, /ə/, /3:/, /ʊ/.

In cases where S.V. corresponds with A.E. phonemes, but not in their lengthened forms, there could be problems in lengthening. These are: /a:/, /ɔ:/.

/I:/

A.E. /i:/ is longer than the allophones of S.V. /i:/, meaning that learners could tend to somewhat shorten it.

/I/

A.E. /I/ is less fronted than S.V. /i/, but close in sound. Also S.V. has more allophones than A.E., meaning that learners could mistake this phoneme for S.V. /i/ or its allophones, but this should not be a severe problem.

/e/

A.E. /e/ is shorter than S.V. /e/ and closer in sound. The S.V. allophones do not correspond with the A.E. allophones, meaning that there will probably be some interference from the S.V. sound.

/ɛ/

A.E. /ɛ/ is close to S.V. /ɛ/, as are its allophones, meaning that learners will have no major problems approximating this phoneme or its allophones.

/aː/

A.E. /aː/ is close to S.V. /a/ and its allophones but a little lower, meaning that learners will have relatively few problems approximating this phoneme although the A.E. sound is longer.

/a/

A.E. /a/ is shorter than S.V. /a/, meaning that learners will probably tend to lengthen this phoneme.

/ə/

A.E. /ə/ is more fronted and relaxed, but auditorilly similar to S.V. /e/, meaning that learners will probably approximate this phoneme and its allophones.

/ɜː/

A.E. /ɜː/ has no correspondence to S.V., so this phoneme and its allophones could become shortened to become similar to S.V. /e/.

/ɔ/

A.E. /ɔ/ is more close than S.V. /ɔ/, meaning that there may be some interference, but this should not be a serious problem.

/ɔ:/

A.E. /ɔ:/ and its allophones have no correspondence to S.V.,
so they could become shortened to become similar to S.V. /ɔ/.

/ʊ/

A.E. /ʊ/ is lower and more back than S.V. /u/, so that /ʊ/
and its allophones could be changed to become similar to S.V.
/u/ and its allophones, particularly /ᵘ/, /U₂/, /U₃/.

/u:/

A.E. /u:/ is close to S.V. /u:/ except that the diphthongisation
of the allophone occurs at the beginning of a word, whereas
in S.V. it occurs at the end. However, other glides in allophones
of S.V./i/ could be used to approximate the allophones of
A.E. /u:/, resulting in a rather fronted approximation.

4.4 Postulated correspondence of diphthongs

Although S.V. has more diphthongs than A.E., as well as
triphthongs,they do not always correspond. Also, S.V. diphthongs
are mostly free, only being followed by a consonant in a few
instances.

/aɪ/

A.E. /aɪ/ closely corresponds auditorily with S.V. /aj/, but
in S.V. this diphthong is always free, meaning that it may
be shortened when followed by a consonant.

/eɪ/

A.E. /eɪ/ has no correspondence with S.V., meaning that subjects may tend to shorten it to the vowel it most sounds like and pronounce it like S.V. /a/, which approximates A.E. /ɛ/.

/ɔɪ/

A.E. /ɔɪ/ corresponds auditorily with S.V. /ɔj/, but in S.V. this diphthong is always free, meaning that it may be shortened when followed by a consonant.

/aʊ/

A.E. /aʊ/ corresponds auditorily with S.V. /aw/, but in S.V. the diphthong is always free, meaning that it may be shortened when followed by a consonant.

/oʊ/

A.E. /oʊ/ has no correspondence with S.V., meaning that subjects may shorten it to the vowel it most sounds like and pronounce it like S.V. /ɔ/.

/ɪə/

A.E. /ɪə/ closely corresponds with S.V. /ɪə/, which can also be followed by a consonant. This diphthong should not present any problems to speakers of S.V.

/ɛə/

A.E. /ɛə/ is similar to S.V. /ej/ but in S.V. it is not followed

by a consonant, meaning that it may be shortened if it is
followed by a consonant.

$$/\upsilon \vartheta/$$

A.E. $/\upsilon \vartheta/$ corresponds closely with S.V. $/\upsilon \vartheta/$, which can also
be followed by a consonant. This diphthong should not present
any problems for speakers of S.V.

4.5 Postulated correspondence of consonants

Unlike the vowels of Vietnamese which have numerous variants,
the consonants are much simpler (see fig.7). There is also
greater agreement between the authors. In this case, there
is only one phoneme, /k/, in which the authors differ, and
I have resolved the problem in the following way:

$$/k/$$

/k/ In the case of this phoneme, Le hears three allophones
and five diallophones whereas Nguyen hears five allophones
(see p.36). However, I hear $/\overset{k}{+}/$ as a separate allophone, meaning
I hear a possible six variants.

Unlike the vowels in English which have relatively few variants,
the consonants have numerous allophones. Added to this, English
has a great variety of consonant clusters which do not exist
in Vietnamese(see word lists, Appen.2), posing enormous problems
for the learners.

4.4 <u>Postulated correspondence of consonants</u>

In contrasting figures 3 and 4 in order to predict problems
of S.V. learners, it can clearly be seen where problems will
occur with consonants that have no S.V. allophonic
correspondence.

/p/

A.E. /p/ is plosive especially in initial position, unlike
S.V. /p/ (an allophone of S.V. /b/) which only occurs initially
in rare foreign words (such as <u>ping-pong</u>), or is unreleased
in final position. This means learners could tend to either
pronounce this phoneme without releasing it sufficiently,
or pronounce it more like its S.V. phone /b/.

/b/

A.E. /b/ is like S.V. /b/ except in S.V. it occurs in initial
position only, meaning that learners could have problems voicing
this phoneme so that they pronounce it as /p/ in word medial
or final position.

/t/

A.E. /t/ is plosive, especially in initial position, unlike
S.V. /t/ which is unaspirated, meaning that learners could
pronounce this phoneme without releasing it enough, making
it difficult to hear, particularly in medial and final position.

	Bilabial	Labiodental	Dental	Alveolar	Post-alveolar	Palato-alveolar	Palatal	Velar	Glottal
Plosive	**p** [pʰ] **b** [b] [p] [pb] [pʰ] [kp] [pˤ] [bˀ] [pⁿ] [bˀ] [bⁿ]			**t** [tʰ] **d** [d] [t] [td] [tˀ] [dt] [t̪] [dˀ] [rˤ] [dˤ] [rⁿ] [dⁿ]				**k** [kʰ] **g** [g] [k] [kg] [kˀ] [gk] [kˤ] [gˀ] [kⁿ] [gˤ] [gⁿ]	
Fricative		**f** [f] **v** [v] [ɸ] [β] [fv] [vf]	**θ** [θ] **ð** [ð] [θð] [ðθ]	**s** [s] **z** [z] [ʃ̩] [ʒ̩] [z̃s̩]		**ʃ** [ʃ] **ʒ** [ʒ] [ʒ̃ʃ]			**h** [hʰ]
Affricate						**tʃ** [č] **dʒ** [ǰ] [čʰ] [č̃ǰ] [ǰč]			
Semi-vocoid	**w** [v] [ʊ] [o̥]						**j** [i] [ʎ] [e]		
Nasal	**m** [m] [m̩] [m̥°]			**n** [n] [n°]				**ŋ** [ŋ] [ŋ°]	
Lateral				**l** [l] [l̥] [ɬ]					
Continuant					**r** [r] [ɾ] [ɹ̥]				

FIGURE 3. <u>Australian English consonants and variants</u>

55

	Bilabial	Dental	Apical	Retroflex	Alveolar	Velar	Glottal
Stops plain aspirated voiced	p b b		t th d		c [c] [c-]	k [k] [k] [k]-[k] [kʰ] [k]-[k] [kʷ] [kʰ] [k]	
Fricatives voiceless voiced	f v		s	ṣ		x [x] [k] g [ɣ][ɣ][ɡ] [d][ɡ]	h
Lateral					l		
Nasal	m [m] [m]		n [ɲ] [n] [ŋ]			ŋ [ŋ][ɲ] [ŋ][ŋ][ɲ]	
Trill				r [r̃] [r̃] [ɹ]			
Semi-vowels	w [u] [u] [o]						

FIGURE 4.<u>South Vietnamese consonants and variants</u>(Lê and Nguyễn)

/d/

A.E. /d/ is like S.V. /d/ except in S.V. it occurs in initial
position only, meaning that learners could have problems voicing
this phoneme in word medial or final position.

56

/k/

A.E. /k/ can be released in all positions and is more fronted
than S.V. /k/ which is unreleased in final position, meaning
that learners may not release this phoneme sufficiently in
initial position and substute a S.V. allophone, or not release
it at all in other positions.

/g/

A.E. /g/ has no correspondence with S.V., the closest phonemes
being either /k/, or /ɣ/ which is fricative and pronounced
in initial position only, meaning that learners may substitute
one of these, or else not pronounce it at all, particularly
in medial or final positions.

/tʃ/

A.E. /tʃ/ is similar to S.V. /c/ in initial position, but
in final position, S.V. /c/ is unreleased, meaning that learners
will probably release this consonant in initial position,
and not release it in other positions.

/dʒ/

A.E. /dʒ/ has no correspondence with S.V., meaning that learners
could substitute their nearest phoneme /c/, and voice it too
softly.

/f/

A.E. /f/ occurs in all positions, whereas S.V. /f/ occurs
in initial position only, meaning that learners could either

substitute S.V. /p/ which is also silent, or not pronounce
it at all in other positions.

/v/

A.E. /v/ occurs in all positions, whereas S.V. /v/ occurs
in initial position only, meaning that learners could either
substitute S.V. /f/ and not voice this phoneme, or not pronounce
it at all in other positions.

/θ/, /ð/

A.E. /θ/ and /ð/ have no correspondence with S.V., the closest
phonemes being S.V. /t/, /tʰ/ and /d/, meaning that learners
could substitute one of these sounds, or not pronounce them
at all. Pronunciation of /ð/ will probably be extremely difficult
for learners to master and first attempts may be heard as
silent /θ/.

/s/

A.E. /s/ is less dental than S.V. /s/ and occurs in all
positions, whereas in S.V. it occurs in initial position only,
meaning that learners may tend to pronounce it as /ʃ/ or perhaps
not pronounce it at all in medial or final positions. There
may also be problems of incorrectly adding or omitting /s/
due to A.E. verb and plural endings.

/z/

A.E. /z/ has no correspondence with S.V. and will probably

be very difficult for learners to pronounce, meaning that learners
will probably substitute S.V. /s/, or not pronounce it at
all.

/ʃ/

A.E. /ʃ/ is more rounded than S.V. /ʃ/ which occurs in initial
position only, meaning that learners will probably pronounce
it in initial position, but pronounce it very weakly like
a soft /s/, or not at all, in other positions.

/ʒ/

A.E. /ʒ/ has no correspondence with S.V., meaning that learners
could either substitute their nearest phoneme /s/, or not
pronounce it at all. It is also possible that this phoneme
could be mistaken for other difficult to pronounce but more
frequently used A.E. phonemes, /tʃ/ /dʒ/ or /z/.

/h/

A.E. /h/ closely corresponds with S.V. /h/ which occurs in
initial position only, meaning that this phoneme should not
be difficult for learners.

/m/, /n/

A.E. /m/ and /n/ correspond with S.V. in both sound and position,
although S.V. uses more airflow through the nose than does
A.E., meaning that it should not be difficult for learners.

/ŋ/

A.E. /ŋ/ is more velarised than S.V. /ŋ/. This phoneme occurs in final position in S.V. as it does in A.E., meaning that it should not be difficult for learners.

/l/

A.E. /l/ approximates S.V. /l/ in initial position, but is produced in a slightly different way and not released as in A.E., meaning that learners will tend to approximate this phoneme by substituting S.V. /ʊ/, or not pronounce it at all, particularly in medial or final positions.

/r/

A.E. /r/ is produced without a trill, whereas S.V. /r̃/ is produced with a trill or friction, in initial position only, meaning that learners will probably pronounce this phoneme as S.V. /r̃/, or not pronounce it at all in medial or final positions.

/j/

A.E. /j/ is close to S.V. /j/, but does not correspond to S.V. allophone /ɟ/ which is a high front fricative, meaning that learners should not have difficulties pronouncing this phoneme, but could mistake it for S.V. /ɟ/ and pronouncing it acordingly.

60

/w/

A.E. /w/ corresponds closely with S.V. /w/, so should not
cause problems to learners.

CHAPTER 5

ENGLISH PRONOUNCED BY SOUTH VIETNAMESE.

5.0 <u>Introduction</u>

The basis for this account of errors made by ten tertiary level S.V. speakers of English is a series of taped interviews and reading tests given before and following ten one hour pronunciation lessons.

Firstly subjects were given a guided interview, then word lists containing vowels and consonants were presented for them to read which were followed by a short reading passage (for reference data see appendix 2). The interviews, word lists and readings are used for listening analysis as follows:

a. <u>Single vowels</u>

   in words read in random order (so that subjects could concentrate on each word separately) as /ɔ:/ (in <u>port</u>),

   in reading numbers 1-20,

   in a short reading passage,

   in a 10-15 minute conversation.

b. <u>Diphthongs</u>

   using the same procedure as for vowels.

c. <u>Single consonants</u>

   in word lists read in initial, medial and final positions as /b/ (in <u>bat</u>, <u>dabber</u>, <u>tab</u>),

read in lists of clusters which occur in initial, medial

and final positions as /bl/ (in black, sublet, able),

in reading numbers 1-20,

in a short reading passage,

in a 10-15 minute conversation.

c. Consonant clusters

in word lists in initial, medial and final positions as

/sp/ (in speak, aspire, gasp).

For ease of referring to the types of errors made by each

subject, I have used the following code of errors in classes:

E.C.1 refers to complete omission of a sound. In the case

of clusters, this could be a partial or complete omission

of sounds as /ns/ in pronounce as /prounaʊs/ or /skt/

in frisked as /frɪt/.

E.C.2 refers to unreleased sound.

E.C.3 refers to sounds resulting from the speaker wishing

to pronounce the sound "correctly". This occurs when

it is in a position that is unfamiliar and is combined

with poor co-articulation, resulting in over-articulation

as in laughed /laf^t/ and badge /bɛdʒə/.

E.C.4 refers to close replacement sounds which have similar

pronunciation, as in mail /meʊ/ where /e/ is replaced

with /aɪ/ and /l/ is replaced with /ʊ/. Other examples

in consonants occur in /b/ which is confused with its

S.V. allophone /p/ (as in bat /pɛt/), in confusing

63

/dʒ/ with /tʃ/ (job /tʃɔb/) where only the unfamiliar
voicing is different, or in the reverse "hyper-correct"
replacement /tʃ/ (chat /dʃɛt/), where /tʃ/ (a phoneme
occurring only initially in S.V.) becomes /dʒ/ (a phoneme
that does not occur in S.V.). In the case of clusters,
this could be a partial or complete replacement as /nθ/
in tenth as /tent/ or /ʃr/ in ashram as /ɛslɛm/.

E.C.5 refers to odd replacement sounds that do not seem to
be consistently used by the speaker, probably caused
by mistakes or slips of the tongue as /ɛ/ in can as
/kɜn/, and especially in clusters as /sps/ in gasps
as /gaːsts/.

E.C.6 refers to errors caused by adding an extra phoneme where
the meaning of the word is changed as in whisked as
/wɪskəs/ and too as /truː/.

E.C.7 refers to errors caused by misinterpreted orthography
as in mis-reading /ndʒd/ in lunged as /luŋgəd/.

E.C.8 refers to permutations that occur when sequences of
sounds are altered as in /st/ in post as /pots/ or /ɔv/ in
of as /vɔ/. Where this involves only consonants, listing
will be under each sound involved. However, where vowels
are involved with consonants, listings will be only
under the consonants, as vowels are usually the nucleus
of a syllable and one instinctively feels that it is
the consonant that has been moved.

E.C.9 occurs in clusters and refers to a combination of E.C.1
(omission) and E.C.4 (replacement).

E.C.10 occurs in clusters and refers to a combination of E.C.3
(over-articulation) and E.C.6 (added phoneme).

E.C.11 occurs in clusters and refers to a combination of E.C.1
(omission) and E.C.3 (over-articulation).

E.C.12 occurs in clusters and refers to a combination of E.C.3
(over-articulation) and E.C.4 (replacement).

E.C.13 occurs in clusters and refers to a combination of E.C.4
(replacement) and E.C.6 (added phoneme).

E.C.14 occurs in clusters and refers to a combination of E.C.8
(permutation) and E.C.1 (omission).

E.C.15 occurs in clusters and refers to a combination of E.C.8
(permutation) and E.C.4 (replacement).

E.C.16 occurs in clusters and refers to a combination of E.C.8
(permutation) and E.C.6 (extra phoneme).

E.C.17 occurs in clusters and refers to a combination of E.C.7
(misreading) and E.C.4 (replacement).

It must be admitted however, that it is sometimes difficult
to distinguish between E.C.4 and E.C.5, and between E.C.6
and E.C.7, and from the viewpoint of the English listener
there is little difference between them.

In the case of percentages, each kind of error in word lists,
reading passages and numbers is calculated in word position
to the nearest whole number, and results presented below.
Overall percentages of errors are then calculated from word
position percentages, showing results of first tests compared

to second tests. Gaining exact percentages from interviews
and would be time consuming and and hardly worthwhile so I
have used a more general percentage reference for these. This
percentage reference has also been used for the section summary
as follows: 1-5%

   5-10%

   10-20%

   20-30% etc.

5.1 Vowels

/i:/

Single vowels (1 medial example in beat):

E.C.4 (replacement) occurs 60% as /i/ in first test,

              30% in second test.

Reading passages (4 medial, 7 final examples):

E.C.4 (replacement) occurs 18% as /i/ medially (as in meet

             /mit/),

            3% finally (in we /wi/) in first

            test and

            8% medially, in second test.

Numbers 1-20 (1 initial, 7 medial, 1 final example):

E.C.4 (replacement) occurs 37% as /i/ medially (as in thirteen

            /θɜ:tin/),

            10% finally (three /θri/) in first

            test and

            30% medially,

            10% finally, in second test.

Conversations:

E.C.4 (replacement) occurs 40-50% as /i/ medially (as in speak

              /spik/) in first interview and

              30-40% medially, in second interview.

Summary:

/i:/ is replaced with shortened S.V./i/ as in <u>meet</u> 40-50%

in medial position, but only 5-10% in <u>we</u> in final position.

Subjects showed errors of 23% in first test and 14% in second

test, an improvement of 9 percentage points, or 39%.

/ɪ/

<u>Single vowels</u> (1 medial example in <u>bit</u>):

No errors are recorded in <u>bit</u>.

<u>Reading passages</u> (6 initial, 12 medial, 3 final examples):

E.C.1 (omission) occurs 4% medially (as in <u>physical</u> /fɪzkəl/)

in first test,

1% medially, in second test.

<u>Numbers 1-20</u> (3 medial examples):

No errors recorded.

<u>Conversations</u>:

E.C.1 (omission) occurs 1-5% medially (in <u>possible</u> /pɔsbʊ/)

in both interviews.

E.C.7 (misreading) occurs 1-5% as /i:/ medially (in <u>system</u>

/si:stem/) in second interview.

Summary:

/ɪ/ is omitted 1-5% in medial position as in <u>physical</u> and

replaced with /i:/ 1-5% as in <u>system</u>, as misunderstood

orthography. Subjects showed 1% of errors in first test and none in second test, an improvement of 1 percentage point, or 100%.

/e/

Single vowels (1 medial example in bet):

E.C.4 (replacement) occurs 10% as /ɜ/ in both tests and

10% as /ɪ/ in second test.

Reading passages (12 medial examples):

No errors recorded.

Numbers 1-20 (9 medial examples):

E.C.7 (misreading) occurs 1% as /ɪ/ (in eleven /elɪven/)

in both tests.

Conversations:

E.C.1 (omission) occurs 1-5% initially (in economics /kɔnɔmɪs/)

in first interview.

Summary:

/e/ is omitted 1-5% in initial position in economics, and misread as /ɪ/ 1-5% in medial position in eleven. Subjects showed 4% of errors in first test and 7% in second test, a regression of 3 percentage points, or 75%.

<center>/ɛ/</center>

<u>Single vowels</u> (1 medial example in <u>bat</u>):

No errors recorded.

<u>Reading passages</u> (4 initial, 8 medial examples):

E.C.4 (replacement) occurs 5% as S.V. /ʌ/ medially (in <u>factors</u>

⎰fʌktɔːs⎱) in first test and

3% in second test.

<u>Conversations</u>:

E.C.4 (rplacement) occurs 1-5% as S.V. /e/ medially (as in <u>can</u>

⎰kɛn⎱) in first interview.

E.C.5 (replacement) occurs 1-5% as /e/ initially (in <u>accents</u>

⎰egsens⎱) in first interview.

<u>Summary</u>:

/ɛ/ is replaced 1-5% with S.V. /ʌ/ as in <u>factors</u> and S.V.

/e/ as in <u>can</u> in medial position. It is also replaced 1-5%

with /e/ in <u>accents</u> in initial position. Subjects showed 2%

of errors in first test and 1% in second test, an improvement

of 1 percentage point, or 50%.

<center>/aː/</center>

<u>Single vowels</u> (1 medial example in <u>part</u>):

No errors recorded.

Reading passages (3 medial examples).

No errors recorded.

Conversations:

No errors recorded.

Summary:

As no errors were recorded in the tests, I conclude that this
vowel is not a problem for S.V. speakers.

<div align="center">/a/</div>

Single vowels (1 medial example in but):

No errors recorded.

Reading passages (3 medial examples):

No errors recorded.

Conversations:

E.C.1 (omission) occurs 1-5% initially (in accounting /kaʊtə/)
in first interview.

E.C.4 (replacement) occurs 5-10% medially as /ɜ:/ (in study
/stɜ:dɪ/), /e/ (in just /jes/),
/ʊ/ (in subjects /sʊptʃet/),
/ɑ/ (in sometime /sɑmta:m/),
/a:/ (in once /wa:ns/) in
first interview and

E.C.7 (misreading) occurs 1-5% as /ɔ/ (in tongue /tɔŋgə/)

71

in second interview.

Summary:

/a/ is omitted 1-5% in <u>accounting</u> and replaced 5-10% with

/ɜ:/ in <u>study</u>, /e/ in <u>just</u>, /ə/ in <u>sometimes</u> and /a:/ in <u>once</u>

in medial position. It is also replaced with /ɔ/ 1-5% as in

<u>tongue</u> due to misunderstood orthography. Subjects showed no

errors in tests.

/ə/

Single vowels (1 initial example in <u>apart</u>):

E.C.7 (misreading) occurs 10% as /eɪ/ (in <u>apart</u> /eɪpa:t/)

<div align="right">in second test.</div>

Single consonants:

In the approxilect an /ə/ sometimes appears at the end of

a word as in <u>thing</u> (see p.58).

E.C.3 (over-articulation) occurs 10% as /ə/ finally (in <u>thing</u>

<div align="right">/θɪŋgə/) in first test.</div>

Consonant clusters:

E.C.7 (misreading) occurs as /ə/ medially in <u>minced</u> (/mɪnsəz/),

<div align="right">

<u>loved</u> (/lavət/),

finally in <u>trudged</u>(/troudəzdə/)

in first test and

in <u>bathes</u> (/beɪðəz/) in

both tests.

</div>

<div align="center">72</div>

<u>Reading passages</u> (4 initial, 10 medial, 1 final example):

E.C.3 (over-articulation) occurs 1% as /ɘ/ finally (in <u>friends</u>

/frenzɘ/) in first test.

<u>Numbers 1-20</u>:

E.C.7 (over-articulation) occurs 10% as /ɘ/ finally (in <u>five</u>

/faɪvɘ/) in first test.

<u>Conversations</u>:

E.C.1 (omission) occurs 1-5% initially (in <u>address</u> /dre/)

interview and

1-5% medially (in <u>confident</u> /kɔnfdɘn/)

in second interview.

E.C.3 (over-articulation) occurs 1-5% as /ɟ/ finally (in <u>tongue</u>

/taŋgɟ/) in first interview.

E.C.4 (replacement) occurs 1-5% as /ɪ/ initially (as in <u>express</u>

/ɪkspre/) in second interview

<u>Summary</u>:

/ɟ/ is replaced 1-5% with /eɪ/ in <u>apart</u> and omitted 1-5% in

initial and medial positions in <u>address</u> and <u>confident</u>. It

is replaced 1-5% in initial position with /ɪ/ in <u>express</u> in

conversations. It is also an extra sound 5-10% in tests and

conversations due to over-articulated and misread orthography

as in <u>tongue</u>. Subjects showed 5% of errors in first test and

3% in second test, an improvement of 2 percentage points,

or 40%.

73

<center>/ɜ:/</center>

<u>Single vowels</u> (1 medial example in <u>bird</u>):

No errors recorded.

<u>Reading passages</u> (2 medial examples):

No errors recorded.

<u>Numbers 1-20</u> (1 medial example):

No errors recorded.

<u>Conversations</u>;

E.C.1 (omission) occurs 1-5% medially (in <u>difference</u> /difensɪer/)
          in first interview.
         1-5% finally (in <u>after</u> /a:ft/) in
         second interview.

E.C.4 (replacement) occurs 1-5% as /ɔ/ medially (as in <u>work</u>
         /wɔk/) in both interviews.
         1-5% as S.V. /ə/ (in <u>working</u>
         /wəkɪŋ/) in first interview.
         1-5% as /a/ medially (as in <u>first</u>
         /fast/) in second interview.

E.C.5 (replacement) occurs 1-5% as /ʊ/ medially (in <u>word</u> /wʊd/)
         in first interview.

<u>Summary</u>:

/ɜ:/ has 1-5% of omissions as in <u>difference</u> and 1-5% of

replacements as /ɔ/ in <u>work</u>, /ʊ/ in <u>word</u>, /a/ in <u>first</u> and

S.V. /ɒ/ in <u>working</u> in medial position in conversations. Subjects

showed no errors in tests.

/ɔ/

<u>Single vowels</u> (1 medial example in <u>pot</u>):

No errors recorded.

<u>Reading passages</u> (6 initial, 4 medial examples):

No errors recorded.

<u>Conversations</u>:

E.C.4 (replacement) occurs 1-5% as /ɘ/ medially (in <u>electronics</u>

[elek-dɘnɪ]) in first interview.

E.C.6 (extra phoneme) occurs 1-5% as /ɔ/ (in <u>first</u> [fɔɘs])

in first interview.

<u>Summary</u>:

/ɔ/ is not difficult for S.V. to pronounce and is replaced

once with /ɘ/ in <u>electronics</u> and is an extra phoneme 1-5%

in <u>first</u>. Subjects showed no errors in tests.

/ɔ:/

<u>Single vowels</u> (1 medial example in <u>port</u>):

E.C.4 (replacement) occurs 20% as /ɔ/ (in <u>port</u> [pɔt]) in first

test and

10% in second test.

<u>Reading passages</u> (4 medial, 2 final examples):

E.C.4 (replacement) occurs 13% as /ɔ/ medially (in <u>because</u>

/bɪkɔs/) and

8% medially, in second test.

<u>Numbers 1-20</u> (1 medial, 1 final example):

No errors recorded.

<u>Conversations</u>:

E.C.4 (replacement) occurs 5-10% medially as /ɔ/ (in <u>because</u>

/bɪkɔs/),

1-5% initially (in <u>order</u> /ɔdɝ:/)

in first interview and

1-5% initially, medially and finally

(in <u>before</u> /bɪfɔ/) in second

interview.

1-5% as /ɔ/ initally (in <u>order</u>

/ɔdɝ/).

<u>Summary</u>:

/ɔ:/ is replaced 5-10% with /ɔ/ as in <u>order</u> and <u>because</u>, and
1-5% with /ɝ/ as in <u>order</u> in all positions. Subjects showed
6% of errors in first test and 3% in second test, an improvement
of 3 percentage points, or 50%.

<u>Single vowels</u> (1 medial example in <u>put</u>):

No errors recorded.

<u>Reading passages</u> (1 medial example):

E.C.4 (repacement) occurs 10% as /ɔ/ (in <u>handful</u> /hɛntfɔʊ/) in

both tests.

<u>Conversations</u>:

No errors recorded.

<u>Summary</u>:

/ʊ/ is not difficult for S.V. to pronounce. It is replaced

by one subject only once, with /ɔ/ in <u>handful</u> in both tests.

Subjects showed 5% of errors in both tests, showing no

improvement.

/u:/

<u>Single vowels</u> (1 medial example in <u>boot</u>):

E.C.4 (replacement) occurs 30% as /ʊ/ (in <u>boot</u> /bʊt/) in first

test and

10% in second test.

<u>Reading passages</u> (2 medial examples):

No errors recorded.

77

Conversations:

E.C.4 (replacement) occurs 1-5% as /ʊ/ medially (in <u>Droop</u>
                                /drʊp/) in first interview.

Summary:

/u:/ is replaced with /ʊ/ 10-15% as in <u>Droop</u> in medial position
only. Subjects showed 15% of errors in first test and 5% in
second test, an improvement of 10 percentage points, or 67%.

5.2 Diphthongs

/aɪ/

Diphthongs (1 final example in <u>buy</u>):
No errors recorded.

<u>Reading passages</u> (4 medial examples):
E.C.4 (replacement) occurs 3% as /a:/ medially (as in <u>prime</u>
                                /pra:m/) in first test and
                        8% in second test.
E.C.7 (misreading) occurs 3% as /ɪ/ medially (in <u>prime</u> /prɪm/)
                        in both tests.

<u>Numbers 1-20</u> (3 medial examples):
No errors recorded.

E.C.4 (replacement) occurs 5-10% as /a:/ medially (as in <u>time</u> /ta:m/) in both interviews.

E.C.5 (replacement) occurs 1-5% medially as /a$_2$/ (in <u>ninety</u> /na$_2$ti:/), /a^3/ (in <u>time</u> /ta^{3}m/) and /ɔI/ as in broad A.E. which I see as inappropriate for educated A.E. (in <u>fine</u> /fɔɪŋ/) in first interview.

Summary:

/aɪ/ is replaced 5-10% with /a:/ as in <u>time</u> and also replaced 1-5% with /a$_2$/ in <u>ninety</u>, /a$_3$/ in <u>time</u> and broad A.E. /ɔI/ in <u>fine</u>. It is misread 1-5% as /I/ in <u>prime</u>. Subjects showed 1% of errors in first test and 2% in second test, an improvement of 2 percentage points or 50%.

<div align="center">/eɪ/</div>

Diphthongs (1 final example in <u>bay</u>):

E.C.4 (replacement) occurs 10% as S.V. /aj/(in <u>boy</u> /baj/) in first test.

Reading passages (2 initial, 7 medial, 1 final example):

E.C.4 (replacement) occurs 31% as /ɛ/ medially (as in <u>make</u> /mɛk/),

10% finally (in <u>may</u> /mɛ/),

5% initially (as in <u>age</u> /ɛdʒ/)

in first test and

24% medially,

10% initially in second test.

11% as /a/ and /ɑ/ medially (as

in aquainted /ɑkwanted/ and

take /tɑ/) in both tests.

5% as /ʌ/ medially (in aquainted

/ɛkwʌnted/) in both tests.

3% as /e/ medially (as in take

/te/) in both tests.

E.C.5 (replacement) occurs 10% as S.V./aj/, /ɛɑ/ and /ej/ finally

(in may /maj/, /mɛɑ/ and /mej/)

in first test.

E.C.6 (extra phoneme) occurs 1% finally as /eɪ/ (in difference

/dɪfensɪeɪ/) in first test.

Numbers 1-20 (2 initial examples):

E.C.4 (replacement) occurs 5% as /ɛ/ (as in eighteen /ɛti:n/)

in first test and

10% in second test.

5% as /a₂/ (in eighteen /a₂ti:n/)

in both tests.

Conversations:

E.C.4 (replacement) occurs 10-20% as /ɛ/ medially (as in take

/tɛk/) in first interview and

5-10% initially (as in age /ɛtʃ/) and

80

medially in second interview.

5-10% as /e/ medially (as in complain

/kɔmplen/) in both interviews

Summary:

/eɪ/ is replaced with /ɛ/ 20-30% in initial and medial positions
as in make, 5-10% in initial and final positions as in
age and may and 1-5% odd replacements of /e/ and /ɘ/ in take,
/a/ in aquainted, and with S.V. /aj/, /ɛɘ/, S.V. /ej/ in may.
It is also replaced 1-5% with /a$_2$/ in eight, /aːɪ/ in say
and is an added diphthong in difference. Subjects showed 21%
of errors in first test and 12% in second test, an improvement
of 5 percentage points or 43%.

/ɔɪ/

Diphthongs (1 example in boy):
No errors recorded.

Conversations:
No errors recorded.

Summary:

/ɔɪ/ shows no errors in conversations and I conclude that
this diphthong is not a problem for S.V. speakers.
Subjects showed no errors in tests.

/aʊ/

Diphthongs (1 final example in bough):

E.C.4 (replacement) occurs 20% as /ɔ:/, /ɔ/, /ɔ⁺/ (in bough /bɔ:/, /bɔ/ and /bɔ⁺/) in both tests.

E.C.7 (misreading) occurs 10% as /oʊ/ (in bough /boʊ/) in both tests.

Reading passages (3 medial examples):

E.C.7 (misreading) occurs 10% as /oʊ/ (in account /ʔkoʊt/) in first test and 3% in second test.

Conversations:

E.C.5 (replacement) occurs 1-5% as /a:/ finally (in now /na:/) in second interview.

Summary:

/aʊ/ is replaced 5-10% with /oʊ/ as in account in medial and final positions. It is also replaced 10-15% in final position in bough with /ɔ:/, /ɔ/ and /ɔ⁺/. Subjects showed 10% of errors in first test and 9% in second test, an improvement of 1 percentage point or 10%.

/oʊ/

Diphthongs (1 final example in bow):
No errors recorded.

<u>Reading passages</u> (1 initial, 4 medial, 1 final example):

E.C.7 (misreading) occurs 30% as /ɔ/ initially(in <u>only</u> /ɔnli:/),

                          10% medially (as in <u>don't</u> /dɔnt/) in

                          first test and

                         3% medially, in second test.

                         10% as broad A.E. /aʊ/ finally

                         (in <u>although</u> /ɔ:lðaʊ/) in first

                         test.

<u>Conversations</u>:

E.C.4 (replacement) occurs 5-10% as /ɔ/ initially and medially

                          (as in <u>phone</u> /fɔn/) in both

                          interviews.

                         1-5% as /aʊ/ medially (in <u>slowly</u>

                         /slaʊli:/) in both interviews.

E.C.5 (replacement) occurs 1-5% as S.V. /e/ medially (in <u>hope</u>

                         /hep/) in first interview.

<u>Summary</u>:

/oʊ/ is replaced 5-10% with /ɔ/ in initial and medial positions

as in <u>only</u> and <u>don't</u>, 1-5% with S.V. /e/ in <u>hope</u> and /aʊ/

as in <u>although</u> which is correct for broad A.E. but is

inappropriate for educated A.E. Subjects showed 15% of errors

in first test and 1% in second test, an improvement of 14

percentage points or 93%.

<center>/ɪə/</center>

<u>Diphthongs</u> (1 final example in <u>beer</u>):

No errors recorded.

<u>Reading passages</u> (1 medial example):

No errors recorded.

<u>Conversations</u>:

E.C.3 (replacement) occurs 1-5% as /ə/ medially (in <u>Australian</u>

/ɔːʃralən/) in both interviews.

1-5% as /ɪ/ (in <u>deal</u> /dɪl/) in both

interviews.

<u>Summary</u>:

/ɪə/ is not a problem for S.V. speakers and is replaced only

1-5% with /ə/ in <u>Australian</u> and /ɪ/ as in <u>deal</u> in conversations.

Subjects showed no errors in tests.

<center>/ɛə/</center>

<u>Diphthongs</u> (1 final example in <u>pair</u>):

No errors recorded.

<u>Conversations</u>:

No errors recorded.

<u>Summary</u>:

This phoneme is not difficult for S.V. speakers and there

<center>84</center>

were no errors in conversations. There were no errors in tests.

/ʊə/

Diphthongs (1 final example in poor):

No errors recorded.

Reading passages (1 final example):

No errors recorded.

Numbers 1-20 (1 medial, 1 final example):

No errors recorded.

Conversations:

No errors recorded.

Summary:

/ʊə/ is not a problem for S.V. speakers. There are no errors in conversations. Subjects showed no errors in tests.

5.3 Consonants

<center>/p/</center>

<u>Single consonants</u> (3 examples in <u>pat</u>, <u>dapper</u>, <u>cap</u>):

E.C.3 (replacement) occurs 7% as /b/ medially (in <u>dapper</u> and finally in <u>cap</u>) in first test.

<u>Consonant clusters</u> (2 initial, 21 medial 1 final example):

E.C.1 (omission)   occurs 3% medially (in <u>lumps</u> /lums/) in first test and

1% medially, in second test.

E.C.4 (replacement) occurs 20% as /b/ initially (as in <u>prove</u> /bru:v/),

1% medially (as in <u>apple</u> /æbɔ:/) in first test and

5% initially, in second test.

2% as /t/ medially (as in <u>gasps</u> /ga:sts/) and

1% as /f/ medially (in <u>optics</u> /oftis/) in first test.

E.C.6 (extra phoneme) occurs 1% as /p/ medially (in <u>lisps</u> /lɪpsps/) and

finally (in <u>gasped</u> /gɛpsp/)in first test.

E.C.8 (permutation) occurs 2% (in <u>gasp</u> as /geps/ and /gept/) and

in <u>gasped</u> as /gɛpsp/ and /gepst/) in both tests.

<center>86</center>

Reading passages (7 initial, 7 medial examples):

E.C.4 (replacement) occurs 7% as /b/ initially (as in part

/ba:t/) and

4% as /b/ medially (as in people

/bi:bʊ/) in first test.

Conversations:

E.C.4 (replacement) occurs 10-20% as /b/ initially and medially

(as in people /bɪbɔ:/) in

first interview and

1-5% medially, in second interview.

Summary:

As /p/ is an allophone of /b/ in S.V., it is replaced with
/b/ 5-10% in initial and medial positions as in people. I
perceive the 1-5% omissions as in lumps or replacements of
/t/ as in reading gasps and /f/ in optics as slips of the
tongue. It has 1-5% of extra phonemes as in gasped. Subjects
showed errors of 7% in first test and 1% in second test,
an improvement of 3 percentage points or 86%.

/b/

Single consonants (3 examples in bat, dabber, tab):

E.C.3 (replacement) occurs 20% as /p/ finally (in tab /tɛp/) and

10% medially (in dapper /dɛpɜ:/)

in first test.

Consonant clusters (3 initial, 8 medial examples):

E.C.1 (omission) occurs 3% medially (in abduct /ædapt/) in

first test.

E.C.4 (replacement) occurs 3% as /p/ initially (in break /prɛk/)

in first test,

7% in second test and

33% medially (as in grabbed /grɛpt/)

in both tests.

E.C.6 (extra phoneme) occurs 1% as /b/ initially (in lisps

/blɪps/) in first test.

E.C.8 (permutation) occurs 1% (in absolve as /ba:sɪ/) in first

test.

Reading passages (2 initial, 1 medial example):

No errors recorded.

Conversations:

E.C.1 (omission) occurs 5-10% medially (as in number /namɘ/) and

1-5% finally (as in suburb /sabɜ:/) in

first interview.

E.C.4 (replacement) occurs 1-5% as /p/ in all positions (as

in basic /peɪsɪk/, subjects

/sapdʒeks/ and job /tʃɔp/)

in both interviews.

Summary:

/b/ is mistaken for its S.V. allophone /p/ 10-15% in all

88

positions as in break, subjects and job, more so in clusters.
It is omitted as in number and suburb 1-5% in medial and final
positions. Subjects showed errors of 12% in first test and
4% in second test, an improvement of 8 percentage points or
67%.

/t/

Single consonants (3 examples in tab, fatter, pat):

E.C.4 (replacement) occurs 20% as /d/ initially (in tab /dɛb/)

                   in first test and

                   10% medially (in fatter /fɛdʒ:/)

                   in both tests.

E.C.6 (extra phoneme) occurs 10% as /t/ medially (in fisher

                   /fɪtʃʒ/) and

                   10% medially (in fizz /fɪtz/)

                   in first test.

Consonant clusters (3 initial, 21 medial, 19 final examples):

E.C.1 (omission) occurs 21% medially (as in facts /fɛks/) and

                   36% finally (as in minced /mɪns/) in

                     first test and

                  8% medially,

                 11% finally, in second test.

                 1% finally (in triumphed /traɾamfɪ/)

                   in first test.

E.C.3 (over-articulation) occurs 2% as /tɂ/ finally (as in sulked

                 /saktɂ/) in first test.

1% as /ɟt/ finally (in <u>pitched</u>
/pɪtʃɟt/) and /dɝ/ (as in
<u>whisked</u> /wɪskdɝ/) in first
test.

E.C.4 (replacement) occurs 5% as /s/ finally (as in <u>sulked</u>
/saks/) in first test and
3% in second test.
3% as /d/ initially (in <u>trick</u>
/drɪk/) and
1% medially (as in <u>pointed</u>
/pɔɪdɝd/) in first test.

E.C.5 (replacement) occurs 1% as /k/ medially (in <u>sits</u>
/sɪks/) and
1% as /ɝz/ finally (in <u>minced</u>
/mɪnsɝz/) in first test.
1% as /g/ medially (in <u>atwirl</u>
/ɛgwi:l/) and
1% as /ɝ/ and /ɝz/ finally (in
<u>minced</u> /mɪnsɝ/) in second test.

E.C.6 (extra phoneme) occurs 1% as /t/ medially (in <u>tasks</u>
/ta:skts/) in both tests.
1% finally (in <u>menthol</u> /mentɔnt/),
1% finally (in <u>helps</u> /hepsɝt/) and
1% finally (in <u>triumphs</u> /traɪamfst/)
in first test.

E.C.8 (permutation) occurs 1% medially (as /pɛstɪ/ in <u>patsy</u>)
in first test and

90

1% medially (as /fɛksts/ in <u>facts</u> and

/pɛstɪ/ in <u>patsy</u>) in second test.

1% finally (as /gepst/ in <u>gasped</u> and

/beɪst/ in <u>bathes</u>) in

first test and

1% finally (as /kɔntɛktst/ in <u>contacts</u>)

in second test.

Reading passages (2 initial, 11 medial, 7 final examples):

E.C.1 (omission) occurs 8% finally (as in <u>difficult</u> /dɪfɪkʊ/)

in both tests.

E.C.3 (over-articulation) occurs 1% medially and finally (in

<u>attractiveness</u> /ᵊtrɛkɬnes/

and <u>marked</u> /ma:kɬ/) in

first test.

E.C.4 (replacement) occurs 1% as /d/ medially (as in <u>better</u>

/bedᵊ/) and

3% finally (as in <u>it</u> /ɪd/) in both

tests.

E.C.6 (extra phoneme) occurs 1% as /t/ finally (in <u>difference</u>

/dɪferenst/) in first test.

Numbers 1-20 (4 initial, 8 medial, 1 final example):

E.C.4 (replacement) occurs 14% as /d/ medially (in <u>twenty</u>

/twendi:/) in first test and

3% as /tʃ/ initially (in <u>twelve</u>

/tʃelv/) in second test.

91

Conversations:

E.C.1 (omission) occurs 5-10% medially (as in <u>currently</u>

/karenli:/),

20-30% finally (as in <u>right</u> /raɪ/)

in first interview and

10-20% finally, in second interview.

E.C.4 (replacement) occurs 5-10% as /d/ medially and finally

(as in <u>title</u> /taɪdɔ:/ and

<u>forget</u> /fɔ:ged/) in both

interviews.

1-5% as /s/ finally, in both

interviews.

1-5% as /k/ and S.V. /k-/ medially

and finally (as in <u>separately</u>

/sepɘrɘk-li:/ and <u>bit</u> /bɪk/)

in both interviews.

Summary:

/t/ is not difficult to pronounce in initial position, but
is omitted as in <u>right</u> 10-15% or replaced with /d/ as in <u>title</u>
5-10% in other positions. It is replaced with /s/ 1-5% in
final position in <u>not</u> and <u>banked</u> and replaced 1-5% with odd
phonemes such as /k/, /k-/ <u>separately</u>, /p/ <u>gasped</u>, /g/ <u>atwirl</u>,
/ɘ/ <u>minced</u>, /z/ <u>minced</u> and /ɘt/ in <u>pitched</u>. It has 1-5%
over-articulations as /ɘz/ in <u>minced</u>, /dɘ/ in <u>whisked</u> and
is added to other phonemes 1-5% as in <u>fisher</u> and <u>difference</u>.
/t/ also has 1-5% of permutations in clusters as in <u>bathes</u>.

92

Subjects showed errors of 14% in first test and 5% in second
test, an improvement of 9 percentage points or 64%.

<div align="center">/d/</div>

<u>Single consonants</u> (3 examples in <u>dab</u>, <u>adder</u>, <u>pad</u>):

E.C.2 (unreleased) occurs 10% medially (in <u>adder</u> /ɛd-ɚ/) in

<div align="center">first test.</div>

E.C.4 (replacement) occurs 70% as /t/ finally (in <u>pad</u> /pɛt/)

<div align="center">in first test and</div>

<div align="center">80% in second test.</div>

<div align="center">10% as /p/ finally (in <u>pad</u> /pɛp/)</div>

<div align="center">in first test.</div>

<u>Consonant clusters</u> (1 initial, 5 medial, 14 final examples):

E.C.1 (omission) occurs 10% initially (in <u>drink</u> /rɪŋk/),

<div align="center">12% medially (as in <u>adrift</u> /ɜrɪft/)</div>

<div align="center">in first test,</div>

<div align="center">8% in second test and</div>

<div align="center">19% finally in (<u>dodged</u> /dɔdʒ/) in</div>

<div align="center">first test,</div>

<div align="center">9% in second test.</div>

E.C.3 (over-articulation) occurs 4% as /dɚ/ finally (in <u>loved</u>

<div align="center">/lavdɚ/) and / d/ (in <u>grabbed</u></div>

<div align="center">/grɛpɚd/) in first test and</div>

<div align="center">2% as /dɚ/ in second test.</div>

E.C.4 (replacement) occurs 50% as /t/ initially (as in <u>drink</u>

<div align="center">/trɪŋk/) in both tests and</div>

<div align="center">93</div>

22% medially (as in <u>trudged</u> /tratʃt/)

in first test,

18% in second test and

28% finally (in <u>grabbed</u> /krɛpt/)

in first test and

30% in second test.

1% as /f/ finally (in <u>filmed</u>

/fɪmf/) in both tests.

<u>Reading passages</u> (3 initial, 5 medial, 4 final examples):

E.C.1 (omission) occurs 76% medially (as in <u>friends</u> /frens/),

48% finally (as in <u>understand</u>

/anɉstɛn/) in first test and

28% medially,

30% finally, in second test.

E.C.4 (replacement) occurs 12% as /t/ medially (as in <u>handful</u>

/hɛntfu:ɹ/,

20% finally (as in <u>backround</u>

/bɛkgrovt/) in first test and

10% medially and finally in second

test.

<u>Conversations</u>:

E.C.1 (omission) occurs 30-40% medially and finally (as in

<u>words</u> /wɔ:s/ and <u>hard</u> /ha:/)

in both interviews.

E.C.4 (replacement) occurs 5-10% as /t/ in all positions (as

94

in <u>Droop</u> /tru:p/, <u>reading</u>
/rɪtɪŋ/ and <u>find</u> /faɪnt/)
in both interviews.

Summary:

/d/ is replaced 1-5% with /t/ as in <u>difficult</u> in initial position
and 10-20% in other positions. It is omitted 1-5% in initial
position and 10-20% in other positions as in <u>postcode</u>, also
having 1-5% odd extra phonemes as /dʒ/ in <u>loved</u> and /ɝd/
which I see as mistakes caused by over-articulating the final
sound. It is interesting to note that /d/ is sometimes omitted
before /r/ which is then flapped as in S.V. /r̃/ <u>adrift</u>.
Replacements of /f/ <u>filmed</u> and /t̪/ mainly occur in final
position. Subjects showed errors of 43% in first test and
31% in second test, showing an improvement of 12 percentage
points or 28%.

/k/

<u>Single consonants</u> (3 examples in <u>cat</u>, <u>backer</u>, <u>sack</u>):

E.C.4 (replacement) occurs 10% as /g/ medially (in <u>backer</u>
/bɛgɜ:/) in first test.

E.C.6 (extra phoneme) occurs 10% as /k/ medially and finally
(in <u>fisher</u> /fɪkʃɜ:/, <u>fish</u> /fɪkʃ/
and <u>thing</u> /θɪŋk/) in first test.
10% medially (in <u>hiss</u> /hɪks/) and
10% finally (in <u>thing</u> /θɪŋk/)
in first test.

Consonant clusters (3 initial, 28 medial, 1 final example):

E.C.1 (omission) occurs 6% medially (as in <u>coaxed</u> /koʊst/)

          10% finally, in first test and

          3% in second test.

E.C.4 (replacement) occurs 13% as /g/ initially (as in <u>quick</u>

          /gwɪk/) in both tests and

          2% medially (in <u>enclose</u> /englovs/)

          in both tests.

E.C.5 (replacement) occurs 1% as S.V. /ɛ/ medially (in <u>enclose</u>

          /enɛlovs/) and /t/ (in <u>masks</u>

          /ma:st/) in first test.

E.C.6 (added phoneme) occurs 1% as /k/ medially (in <u>shriek</u>

          /skri:k/) in first test.

E.C.8 (permutation) occurs 1% (as /wɪkst/ in <u>whisked</u>) in first

          test.

Reading passages (1 initial, 10 medial, 4 final examples):

E.C.1 (omission) occurs 1% medially (as in <u>factors</u> /fɛtɔ:s/),

          13% finally (as in <u>take</u> /tə/) in first

          test and

          5% in second test.

E.C.2 (unreleased) occurs 8% as S.V. /k-/ finally (as in <u>like</u>

          /laɪk-/) in first test.

E.C.4 (replacement) occurs 40% as /g/ initially (as in <u>clearly</u>

          /glɪəli:/) in first test and

          20% in second test.

Numbers 1-20 (2 medial examples):

E.C.1 (omission) occurs 5% medially (in sixteen /sɪstiːn/)

in first test.

E.C.2 (unreleased) occurs 5% as S.V. /k-/ medially (in six

/sɪk-/) in first test.

Conversations:

E.C.1 (omission) occurs 5-10% medially and finally (as in

sixty /sɪstiː/ and think

/θɪŋ/) in first interview and

1-5% in second interview.

E.C.2 (unreleased) occurs 1-5% as S.V. /k̄/ medially (as in

Footscray /fʊsk-reɪ/), but moreso

finally (as in think /θɪŋk-/)

in both interviews.

E.C.4 (replacement) occurs 1-5% as /g/ in all positions (as

in class /glaːs/, accents

/ɛgsens/ and like /laɪg/)

in both interviews.

E.C.5 (replacement) occurs 1-5% as /j/ medially (in exact

/ejakt/) and /s/ (in talk

/tɔːs/) in first interview.

E.C.6 (extra phoneme) occurs 1-5% as /k/ medially (in fisher

/fɪkʃə/, English /eŋklɪʃ/)

and finally (in tongue /taŋk/)

in first interview.

97

Summary:

/k/ is omitted 1-5% in medial and final positions as in _like_
and replaced with /g/ 1-5% mainly in initial position as in
question, and in medial position. It is replaced 1-5% by
S.V. /k-/ as in _six_, S.V. /ɤ/ in _enclose_, /j/ in _exact_ and
/s/ in _talk_. It also has 1-5% extra phonemes as /k/ in _fisher_
and _tongue_. Subjects showed errors of 14% in first test and
5% in second test, an improvement of 9 percentage points or
64%.

/g/

<u>Single consonants</u> (3 examples in <u>gag</u>, <u>maggot</u>, <u>gag</u>):

E.C.1 (omission) occurs 10% finally (in <u>gag</u> /gɛ/) in both
<div align="center">tests.</div>

E.C.4 (replacement) occurs 60% as /k/ medially (in <u>maggot</u>
<div align="right">/mɛkɔt/) in first test and</div>
<div align="center">10% in second test.</div>

E.C.7 (misreading) occurs 50% as /g/ (in <u>singer</u> /sɪŋgɜ:/)
<div align="center">in first test and</div>
<div align="center">40% in second test.</div>

<u>Consonant clusters</u> (2 initial, 3 medial, 1 final example):

E.C.2 (unreleased) occurs 5% as S.V. /k-/ medially (as in
<div align="right"><u>aglow</u> /ɛk-loʊ/) in first test and</div>
<div align="center">2% in second test.</div>

E.C.4 (replacement) /k/ occurs 35% initially (as in <u>gloss</u>
<div align="center">/klɔs/),</div>

<div align="center">98</div>

23% medially (as in aglow

/ɛ·kloʊ/) in first test and

20% initially,

7% medially, in second test.

5% as S.V. /ɣ/ initially (in

grey /ɣreɪ/),

7% medially (as agree /e·ri:/)

in first test and

5% initially,

7% medially, in second test.

E.C.7 (misreading) occurs 1% medially (in lunged /laŋgəd/)

in first test.

Reading passages (3 initial, 1 medial example):

E.C.4 (replacement) occurs 10% as S.V. /ɣ/ initially (in granted

/ɣrɛnted/) in first test.

Conversations:

E.C.4 (replacement) occurs 1-5% as /k/ in all positions (in

great /kreɪt/, biggest /bɪkest/

and big /bɪk/) in both

interviews.

1-5% as S.V./ɣ/ and S.V. /k-/

medially (in program

/proʊɣrɛmɜ:/ and because

/bɪk-ɔs/) in first interview.

E.C.6 (extra phoneme) occurs 1-5% as /g/ finally (in tongue

∠taŋgɁ/) in first interview.

Summary:

/g/ is replaced 10-20% with /k/ as in grey in all positions,
particularly in clusters. It is omitted in final position
as in gag or replaced with S.V. /ɣ/ as in grey in initial
and medial positions 1-5%. It is also replaced 1-5% with S.V.
/k-/ as in agree in clusters and added to another phoneme
as in tongue which I see as a misreading. Subjects showed
errors of 26% in first test and 12% in second test, an
improvement of 14 percentage points or 54%.

/tʃ/

Single consonants (3 examples in chat, patchy, match):

E.C.4 (replacement) occurs 10% as /t/ finally (in match ∕mɛt/)

     in both tests.

     10% as /dʒ/ initially (in chat

     ∕dʒɛt/) in first test and

     20% in second test.

Consonant clusters (4 medial examples):

E.C.4 (replacement) occurs 3% as /t/ medially (in watches

     ∕wɔts/) in both tests.

     3% as /s/ medially (in pitched

     ∕pɪst/) in both tests.

     3% as /ʃ/ medially (in watched

100

/wɔʃt/) in both tests.

E.C.5 (replacement) occurs 3% as /p/ (medially in punched

/pamt/) in second test.

Conversations:

E.C.4 (replacement) occurs 1-5% as /ʃ/ and /s/ finally (in

much /maʃ/ and /mas/) in both

interviews.

Summary:

/tʃ/ shows errors of 1-5%, occurring in all positions. It

is replaced 1-5% with /dʒ/ in chat, /t/ in watches, /s/ pitched,

/p/ punched, /ʃ/ much and /t/ in actually. There is no /tʃ/

included in the reading test. Subjects showed errors of 8%

in first test and 12% in second test, a regression of 4

percentage points or 33%.

/dʒ/

Single consonants (3 examples in jag, magic, badge):

E.C.3 (over-articulation) occurs 10% finally as /dʒʔ/ (in badge

as /bɛdʒʔ/)in both tests and

10% as /tʃɪ/ (badge /batʃɪ/)

in first test.

E.C.4 (replacement) occurs 40% as /tʃ/ finally (in badge

/bɛtʃ/ in both tests and

10% initially (in jag /tʃɛ g/)

in first test.

101

30% as /ʒ/ medially (in <u>magic</u>
∠mɛʒɪk/),

10% initially and finally (in <u>jag</u>
∠ʒɛg/ and <u>badge</u> ∠bɛʒ/) in first
test and

20% medially, in second test.

10% finally as /dʒ/ (in <u>badge</u> ∠bɛdʒ/)
in second test.

<u>Consonant clusters</u> (5 medial, 1 final example):

E.C.1 (omission) occurs 6% medially (as in <u>lunged</u> ∠laŋt/)
in first test and

4% in second test.

E.C.4 (replacement) occurs 40% as /tʃ/ medially (as in <u>trudged</u>
∠tratʃt/) in first test and

26% in second test.

10% finally (in <u>change</u> ∠tʃɛntʃ/)
in first test.

30% as /k/ and /g/ medially (as
in <u>trudged</u> ∠drakt/ and ∠dragt/)
in first test and

14% medially, in second test.

2% as /dʒz/ medially (in <u>trudged</u>
∠troʊdʒzdʒ/ in both tests.

E.C.5 (replacement) occurs 2% as /t/ medially (in <u>trudged</u>
∠trat-/) in first test.

2% as /s/ medially (in <u>lunged</u> ∠laŋst/)

in both tests.

E.C.7 (misreading) occurs 5% as /g/ medially (in <u>lunged</u>

/laŋgət/) in both tests.

<u>Reading passages</u> (1 medial, 3 final examples):

E.C.1 (omission) occurs 3% finally (in <u>large</u> /la:/) in first

test.

E.C.4 (replacement) occurs 60% as /tʃ/ finally (as in <u>large</u>

/la:tʃ/) in first test and

40% in second test.

5% as /ʒ/ medially (in <u>intelligence</u>

/intelıʒens/) in first test,

10% in second test and

10% finally (in <u>large</u> /la:ʒ/) in

second test.

E.C.5 (replacement) occurs 17% as /z/, /ʃ/ and /t/ finally (in

<u>age</u> /eɪz/, /eɪʃ/ and /eɪt/)

in first test and

7% as /z/ in second test.

E.C.6 (extra phoneme) occurs 2% as /dʒ/ initially (in <u>usually</u>

/dʒuzuəlı/) in first test.

E.C.7 (misreading) occurs 10% as /dʒ/ finally (in <u>age</u> /ɛdʒə/)

in first test.

<u>Conversations:</u>

E.C.4 (replacement) occurs 10-20% as /tʃ/ in all positions (as

in <u>job</u> /tʃop/, <u>enjoy</u> /entʃɔɪ/

and knowledge /nɔletʃ/) in

both interviews.

1-5% as /ʒ/ initially (in job /ʒɔb/)

in first interview only.

5-10% as /t/ finally (in page /peɪt/),

/k-/ (college /kɔlek-/) and

/ʒ/ (language /lɛŋweʒ/) in

both interviews.

Summary:

/dʒ/ is replaced 30-40% by the hyper-correction /tʃ/ as in
job and 10-20% by /ʒ/ as in magic in all positions. It has
5-10% odd replacements as /s/ in lunged, /k/ and /g/, /t/
as in trudged, particularly in clusters. It is also replaced
1-5% with /ʃ/, /z/ as in age, is over-articulated 1-5% as
in badge and is an extra phoneme 1-5% as in usually. Subjects
showed 40% of errors in first test and 22% in second test,
an improvement of 18 percentage points or 45%.

/f/

Single consonants (3 examples in fig, jiffy, tiff):
No errors recorded.

Consonant clusters (10 medial examples):
E.C.1 (omission) occurs 8% (as in coughs /kɔs/)in first test and
5% in second test.
E.C.3 (over-articulation) occurs 1% as /v/ (as in laughs /lavs/)

104

in second test.

E.C.4 (replacement) occurs 7% as /p/ (as in <u>triumphs</u>

/traɪamps/) in first test and

4% in second test.

<u>Reading passages</u> (8 initial, 4 medial, 2 final examples):
No errors recorded.

<u>Numbers</u> 1-20 (3 initial, 1 medial example):
E.C.1 (omission) occurs 20% medially (in <u>fifteen</u> /fɪti:n/)

in first test.

<u>Conversations</u>:
E.C.1 (omission) occurs 1-5% medially (in <u>fifteen</u> /fɪti:n/)

in second interview.
E.C.5 (replacement) occurs 1-5% as /s/ initially (in <u>flat</u>

/slɛt/) in first interview.

<u>Summary</u>:
/f/ is not difficult to pronounce in any position, especially
as a single consonant. It has 1-5% of omissions as in <u>coughs</u>
and is released as /p/ 1-5% in <u>triumphs</u>, with isolated
replacements of /s/ in <u>flat</u> and /v/. Subjects showed 3% of
errors in first test and 1% in second test, an improvement
of 2 percentage points or 67%.

/v/

Single consonants (3 examples in vat, avid, have):

E.C.4 (replacement) occurs 10% as /f/ initially and medially (in

vat /fɛt/ and avid /ɛfɪd/),

60% finally (in have /hɛf/) in

first test and

20% finally, in second test.

Consonant clusters (4 medial examples):

E.C.1 (omission) occurs 3% (in coughs /kɔs/) in both tests.

E.C.4 (replacement) occurs 50% as /f/ (as in loved /laft/) in

first test and

33% in second test.

Reading passages (3 medial, 3 final examples):

E.C.1 (omission) occurs 7% medially (in attractiveness

/trɛktnes/),

30% finally (in of /ɔ/) in first test and

60% finally in second test.

E.C.4 (replacement) occurs 20% as /f/ medially (in lives

/laɪfs/),

3% finally (in of /ɔf/) in first

test and

6% medially, in second test.

E.C.5 (replacement) occurs 3% as /b/ finally (in of /ɔb/) in

first test.

106

Numbers 1-20 (3 medial, 2 final examples):

E.C.1 (omission) occurs 45% finally (as in five /faɪ/) in

                              first test.

E.C.3 (over-articulation) occurs 3% as /və/ finally (in five

                            /faɪvə/) in first test.

E.C.4 (replacement) occurs as 20% as /f/ finally (as in twelve

                            /twelf/) in first test and

                      15% in second test.

Conversations:

E.C.1 (omission) occurs 10-20% finally (as in have /hɛ/) in

                            first interview.

E.C.4 (replacement) occurs 1-5% as /f/ medially (in overcome

                          /ovfɛːkam/) in first

                          interview and

                 10-20% finally (as in arrive

                      /əraɪf/) in both interviews.

E.C.5 (replacement) occurs 1-5% as /b/ finally (in have /hɛb/),

                        /p/ (have /hɛp/) in first

                        interview and

                        /b/, /s/ (in improve /ɪmprɔːs/)

                        in second interview.

Summary:

/v/ is sometimes difficult to pronounce in medial and final
positions where it is replaced 10-20% with /f/ as in loved.
It is also replaced 1-5% with /b/ as in of, /p/ or /s/ as
in improve and is over-articulated 1-5% in five. Subjects

107

showed 29% of errors in first test and 13% in second test,
an improvement of 15 percentage points or 55%.

/θ/

Single consonants (3 examples in thin, nothing, myth).

E.C.3 (over-articulation) occurs 10% as /ð/ initially (in thin
/ðɪn/) and
2% as /ð/ medially (in healths
/helðs/) in first test and
1% in second test.

E.C.4 (replacement) occurs 20% as /t/ in all positions (in
thin /tɪn/, nothing /natɪŋ/
and myth /mɪt/) in first test and
20% initially,
10% medially and finally, in second
test and
10% as /d/ finally (in myth /mɪd/)
in first test.

Consonant clusters (6 medial, 6 final examples):

E.C.1 (omission) occurs 27% medially (as in months /mans/),
12% finally (in /sixth /sɪgs/) in
first test and
10% medially and finally, in second
test.

E.C.2 (unreleased) occurs 5% medially (in both /bɔ:t-/) in
first test and

4% in second test.

E.C.4 (replacement) occurs 17% as /t/ finally (as in <u>sixth</u>

/sɪt/) in first test and

8% in second test.

5% medially (as in <u>months</u> /mants/)

in both tests.

1% as /w/ medially (in <u>healths</u>

/he₂ws/) in first test.

<u>Reading passages</u> (1 initial, 3 final examples):

E.C.1 (omission) occurs 3% finally (in <u>forth</u> /fɔ:/) in both

tests.

E.C.4 (replacement) occurs as 20% as /t/ initially (as in

<u>things</u> /tɾŋs/),

33% finally (as in <u>forth</u>

/fɔ:t/) in first test and

10% initially,

13% finally, in second test.

<u>Numbers 1-20</u> (2 initial examples):

E.C.4 (replacement) occurs 40% as /t/ initially (as in <u>thirteen</u>

/tɜ:ti:n/) in first test and

10% in second test.

<u>Conversations</u>

E.C.1 (omission) occurs 1-5% medially (as in <u>maths</u> /mɛs/)

in first interview.

E.C.2 (unreleased) occurs 1-5% finally (in <u>with</u> /wɪt-/) in first interview only.

E.C.4 (replacement) occurs 10-20% as /t/ in all positions (as in <u>thing</u> /tɪŋ/, <u>Arthur</u> /artɜ:/ and <u>with</u> /wɪt/)in first interview and

1-5% finally, in second interview.

1-5% as /d/ medially (in <u>something</u> /samdɪŋ/) in first interview and /s/ initially and finally (in <u>things</u> /sɪŋs/ and <u>with</u> /wɪs/) in second interview.

E.C.5 (replacement) occurs 1-5% as /f/ initially (in <u>think</u> /fɪŋk/) in first interview.

Summary:

/θ/ is difficult to pronounce in all positions and is omitted 5-10%, especially in clusters as in <u>months</u> and in final position. It is replaced 10-20% with /t/ as in <u>three</u> in all positions and replaced 1-5% with /s/ as in <u>things</u>, /d/ as in <u>something</u>, /w/ as in <u>healths</u> and /f/ as in <u>think</u>. It is also over-articulated 1-5% with /ð/ as in <u>healths</u>. Subjects showed errors of 31% in first test and 14% in second test, an improvement of 17 percentage points or 55%.

110

/ð/

Single consonants (3 examples in they, bather, bathe):

E.C.4 (replacement) occurs 60% as /ð/ finally (in bathe /beɪð/),

                50% medially (in bather /beɪðə/)

                in first test and

                10% initially (in they /ðeɪ/),

                40% medially and finally in

                second test.

                40% as /d/ initially (in they /deɪ/),

                30% medially (in bather /beɪdɜ:/)

                in first test and

                40% initially,

                20% medially, in second test.

                10% as /tʃ/ medially (in bather

                /beɪtʃə/),

                10% as /t/ finally (in bathe /beɪt/)

                in first test.

Consonant clusters (4 medial examples):

E.C.1 (omission) occurs 17% (as in bathes /beɪs/) in first

                test and

             7% in second test.

E.C.4 (replacement) occurs 35% as /ð/ (as in bathes /beɪðs/)

                in first test and

                43% in second test.

                8% as /d/ (as in loathed /lɔdð/)

                in first test.

                3% as /s/ (in clothed /klɔst/)

in first test and

5% as /s/, /z/ in second test.

<u>Reading passages</u> (3 initial, 2 medial examples):

E.C.4 (replacement) occurs 27% as /d/ initially (as in <u>the</u>
/d∂/),

33% medially (as in <u>although</u> /ɔldoʊ/)
in first test and

13% initially,

25% medially, in second test.

5% as /θ/ medially (in <u>although</u>
/ɔlθoʊ/) in second test.

E.C.5 (replacement) occurs 5% as /t/ (medially in <u>although</u>
/ɔltoʊ/) in first test.

<u>Conversations:</u>

E.C.1 (omission) occurs 5-10% initially (as in <u>them</u> /∂m/)
in first interview and

1-5% medially (in <u>another</u> /an∂/) in
second interview.

E.C.4 (replacement) occurs 20-30% as /d/ initially and medially
in both interviews.

1-5% as /θ/ initially (in <u>them</u>
/θem/ in first interview.

1-5% as /z/ initially (in <u>the</u> /z∂/)
in first interview and

1-5% as /z/, /t/ initially (in <u>the</u>

112

([ze], [tə]) in second interview.

Summary:

/ð/ is difficult to pronounce in all positions and is omitted 5-10% in initial position as in them /em/ and in clusters. It is replaced 10-20% with /d/ in all positions as in them and 1-5% with /tə/ in bather, /t/ in bathe, /z/ in the, /s/ in clothed and /t/ in although. It is replaced 30-40% with /θ/ in word lists, but only 1-5% in readings and conversations. There appears to be a significant progression from /d/ in first test to unvoiced /θ/ in second test. Subjects showed 56% of errors in first test and 43% in second test, an improvement of 21 percentage points or 23%.

/s/

Single consonants (3 examples in sit, missile, hiss):

E.C.4 (replacement) occurs 20% as /z/ medially (in missile [mɪzaɪl]) in first test and 10% as /ʃ/ medially (in missile [mɪʃaɪl]) in both tests.

E.C.6 (extra phoneme) occurs 10% as /s/ initially (in thin [sθɪn]) in first test.

Consonant clusters (11 initial, 23 medial, 30 final examples):

E.C.1 (omission) occurs 16% finally (as in moves [mʊf]) in first test, 7% in second test and

113

1% medially (as in <u>minced</u> /mɪnt/)

in both tests.

E.C.3 (over-articulation) occurs 2% finally (as in <u>lumps</u> /lampş/)

in first test and

1% finally, in second test.

E.C.4 (replacement) occurs 2% as /ʃ/ medially (in <u>astride</u>

/ɛʃtreɪ/) and

1% initially (in <u>street</u> /ʃtri:t/)

in first test.

E.C.5 (replacement) occurs 1% as /z/ medially (in <u>months</u> /manz/)

and /d/ (in <u>bouncer</u> /poʊdʒ:/) in

first test.

E.C.6 (extra phoneme) occurs 1% as /s/ medially (in <u>triumphed</u>

/traɪamfst/),

1% finally (in <u>whisked</u> /wɪskts/)

in first test and

1% medially (in <u>gasped</u> /ga:spst/ and

<u>facts</u> /fɛksts/),

1% finally (in <u>coaxed</u> /kɔsts/)

in second test.

E.C.8 (permutation) occurs 3% medially (as /ba:sɪ/ in <u>absolve</u>,

/kɔntɛkst/ in <u>contacts</u>, /gɛpsp/

and /gepsp/ in <u>gasps</u>, /ɔpstɪk/ in

<u>optics</u>, /pɔstɪ/ in <u>patsy</u>),

1% finally (as /tʃa:ms/ and /kems/ in

<u>chasm</u>) in first test and

1% medially (as /pɔstɪ/ in <u>patsy</u>),

114

1% finally (as /geps/ in gasp) in

second test.

Reading passages (3 initial, 5 medial, 13 final examples):

E.C.1 (omission) occurs 5% finally (as in lives /lɪf/) in

first test and

2% in second test.

E.C.3 (over-articulation) occurs 1% as /zə/ finally (in friends

/frenzə/ in first test.

E.C.5 (replacement) occurs 1% as /t/ finally (in as /ɛt/)

in first test.

Numbers 1-20 (4 initial, 1 final example):

E.C.1 (omission) occurs 10% finally (in six /sɪk/) in first test.

Conversations:

E.C.1 (omission) occurs 1-5% medially (as in interesting

/ɪntəretɪŋ/)

5-10% finally (as in sometimes

/samta:m/) in first interview and

1-5% finally, in second interview.

E.C.3 (over-articulation) occurs 1-5% finally (as in as /ɛzə/)

in both interviews.

E.C.4 (replacement) /ʃ/ occurs 1-5% medially (as in lesson

/leʃən/)in both interviews.

E.C.6 (extra phoneme) occurs 1-5% as /s/ initially and medially

(in because /bɪskɔs/ and

115

thin /sθɪn/) in first test.

Summary:

/s/ is omitted 5-10% in medial, but mostly final position
as in difference and is replaced 1-5% with /ʃ/ as in listening
and 1-5% with /z/ as in missile, /d/ and /t/ as in as. /s/
is over-articulated 1-5% as in as /aˢ/, is an extra phoneme
1-5% as in because /bɪskɔs/ and has 1-5% of permutations as
in gasp. Subjects showed 9% of errors in first test and 2%
in second test, an improvement of 7 percentage points or 78%.

/z/

Single consonants (3 examples in zip, pizza, fizz):

E.C.3 (over-articulation) occurs 10% as /zɝ/ finally in fizz
/fɪzɝ/) in first test.

E.C.4 (replacement) occurs 30% as /s/ initially (in zip /sɪp/),

20% medially and finally (in pizza
/pɪsa/) and fizz /fɪs/) in
first test and

10% in all positions, in second test.

30% as /dʒ/ initially (in zip
/dʒɪp/) in both tests.

10% as /ʃ/ finally (in fizz /fɪʃ/)
in both tests.

Consonant clusters (9 medial, 8 final examples):

E.C.1 (omission) occurs 1% medially (in Mazda /mɛda/),

116

4% finally (as in <u>moves</u> /mʊf/) in

first test and

5% finally, in second test.

E.C.3 (over-articulation) occurs 3% as /zʒ/ finally (in <u>moves</u>

/mʊːzʒ/) in first test.

E.C.4 (replacement) /s/ occurs 62% medially (as in <u>chasm</u>/tʃɛsm/),

36% finally (as in <u>ribs</u> /rɪps/)

in first test and

48% medially,

30% finally, in second test.

E.C.5 (replacement) occurs 1% as /ʒ/ medially (as in <u>midzone</u>

/mɪdʒɔn/) in first test and

1% finally (as in <u>bathes</u> /baɪʒ/)

in second test.

E.C.7 (misreading) occurs 1% as /ʒz/ finally (in <u>bathes</u> /beɪðʒz/)

in both tests.

<u>Reading passages</u> (2 medial, 6 final examples):

E.C.1 (omission) occurs 5% finally (as in <u>lives</u> /laɪf/) in

first test and

3% in second test.

E.C.3 (over-articulation) occurs 5% as /zʒ/ finally (as in

<u>friends</u> /frenzʒ/) in second

test.

E.C.4 (replacement) occurs 33% as /s/ finally (as in <u>is</u> /ɪs/)

in first test and

10% in second test.

117

2% as /d/ finally (in <u>as</u> /ɛd/)

in both tests.

E.C.6 (extra phoneme) occurs 5% as /z/ (in <u>usually</u> /zu:zalɪ/)

in first test.

Conversations:

E.C.1 (omission) occurs 1-5% finally (as in <u>otherwise</u>

/aðʔwaɪ/) in both interviews.

E.C.4 (replacement) /s/ occurs 5-10% finally (as in <u>as</u> /as/),

1-5% medially (as in <u>easy</u> /ɪsɪ/)

in first interview and

1-5% finally, in second interview.

Summary:

/z/ is omitted 1-5% in final position and in clusters, and
is replaced 10-20% with /s/ as in <u>fizz</u> in final position.
/z/ has twice as many errors in clusters where it is replaced
40-50% with /s/ as in <u>dozed</u>. It is replaced 1-5% with /s/,
/dʒ/ in <u>zip</u> in initial position and 1-5% with /ʃ/ in <u>fizz</u>,
/ʒ/ in <u>bathes</u> and /d/ in final position. There are 1-5% of
over-articulations in final position as /zʔ/ in <u>friends</u>,
/ʔs/ and /ʔz/ in <u>bathes</u>. Subjects showed 44% of errors in
first test and 27% in second test, an improvement of 17
percentage points or 39%.

118

$/\int/$

<u>Single consonants</u> (3 examples in <u>ship</u>, <u>fisher</u>, <u>fish</u>):

E.C.4 (replacement) occurs 10% as /s/ initially and medially

(in <u>ship</u> $\int$sɪp$\int$ and <u>fisher</u>

$\int$fɪsɜ:$\int$) in first test.

<u>Consonant clusters</u> (4 medial examples):

No errors recorded.

<u>Reading passages</u> (3 medial examples):

E.C.4 (replacement) occurs 33% as /s/ medially (as in <u>usually</u>

$\int$ɪʊselɪ$\int$) in first test and

7% in second test.

<u>Conversations</u>:

E.C.1 (omission) occurs 1-5% medially (in <u>distinguished</u>

$\int$dɪstɪŋwɪt$\int$) in first interview.

E.C.4 (replacement) occurs 5-10% as /s/ medially (as in

<u>operation</u> $\int$ɔpɘreɪsɘn$\int$),

1-5% initially and finally (as

in <u>sure</u> $\int$sɔ:$\int$ and (<u>wish</u> $\int$wɪs$\int$)

in first interview and

1-5% in all positions in second

interview.

<u>Summary</u>:

$/\int/$ is replaced with /s/ 10-20% as in <u>fish</u> in all positions

and is omitted 1-5% medially as in <u>distinguished</u>. Subjects
showed 8% of errors in first test and 1% in second test,
an improvement of 7 percentage points or 88%.

/ʒ/

<u>Single consonants</u> (2 examples in <u>vision</u>, <u>rouge</u>):

E.C.4 (replacement) occurs 20% as /z/ medially (in <u>vision</u>
/vɪzən/) in first test and
10% medially and finally (in <u>rouge</u>
/rovz/) in second test.
5% as /s/ medially (in <u>vision</u>
/vɪsən/) in first test.

E.C.3 (over-articulation) occurs 10% as /dʒ/ medially (in <u>vision</u>
/vɪdʒən/)
30% as /dʒ/ finally (in <u>rouge</u>
/rovdʒ/) in first test and
10% in second test
10% as /tʃ/ finally (in <u>rouge</u>
/rovtʃ/) in both tests.

<u>Readings</u> (1 medial example):

E.C.1 (omission) occurs 10% (in <u>usually</u> /ɪu:i:/) in both tests.
E.C.4 (replacement) occurs 20% as /z/ (in <u>usually</u> /jɪʊzalɪ/)
in first test and
10% in second test.
30% as /s/ (in <u>usually</u> /u:sɪelɪ/)
in first test.

120

Summary:

/ʒ/ has 20-30% of errors in reading <u>usually</u>, where it is omitted or replaced with /z/ or /s/. It also has 5-10% replacements of /tʃ/ and /dʒ/ in <u>rouge</u>. Subjects showed 43% of errors in first test and 38% in second test, an improvement of 5 percentage points or 12%.

/h/

<u>Single consonants</u> (2 examples in <u>hat</u>, <u>ahead</u>):
No errors recorded.

<u>Reading passages</u> (3 initial examples):
No errors recorded.

<u>Numbers 1-20</u> (1 medial example):
No errors recorded.

<u>Conversations</u>;
No errors recorded.

Summary:

As there are no errors recorded in first and second tests or interviews, I conclude that this consonant is not difficult for subjects to pronounce.

Single consonants (3 examples in main, famous, frame):

E.C.5 (replacement) occurs 10% as /n/ finally (in frame [fren])

in first test.

Consonant clusters (3 initial, 15 medial, 2 final examples):

E.C.1 (omission) occurs 5% finally (in chasm [tʃaː]),

1% medially (in prompted [proʊtʒt])

in first test and

5% finally, in second test.

E.C.5 (replacement) occurs 5% as /p/ finally (in chasm

[tʃɛsp]) in first test.

Reading passages (7 initial, 4 medial, 1 final phoneme):

E.C.1 (omission) occurs 30% finally (in prime [praɪ]) in second

test.

E.C.5 (replacement) occurs 10% as /s/ finally (in prime [praɪs])

in first test.

Conversations:

E.C.2 (unreleased) occurs 1-5% medially (in sometimes

[sam-taːms]) in first interview.

Summary:

/m/ is not difficult for subjects to pronounce, but has 1-5%
odd omissions, one in medial position as in prompted and others
in final position as in prime. It also has 1-5% odd replacements

of /n/ as in frame, /s/ in prime and /p/ in chasm. Subjects showed 3% of errors in first test and 4% in second test, a regression of 1 percentage point or 33%.

/n/

Single consonants (3 examples in net, benny, pen):
No errors recorded.

Consonant clusters (24 medial, 2 final examples):
E.C.1 (omission) occurs 10% medially (as in background
                    /bɛkgroʊd/) in first test and
              5% in second test.
E.C.4 (replacement) occurs 6% as /ŋ/ medially (in lunged
                    /laŋt/ and /laŋgəd/) in both
              tests.
E.C.6 (extra phoneme) occurs 1% as /n/ medially (in dozed
                    /doʊznd/ and menthol /mentɔnt/)
                    and
              1% finally (in minced /mɪnsdn/)
              in first test.

Reading passages (1 initial, 22 medial, 3 final examples):
E.C.1 (omission) occurs 6% medially (as in account /ɛkoʊt/ and
                    bouncer /boʊsə/) in first test and
              5% in second test.

123

Numbers 1-20 (1 initial, 1 medial, 11 final examples):

E.C.1 (omission) occurs 50% medially (in <u>nineteen</u> /naɪtiːn/),

          35% finally (as in <u>nine</u> /naiː/) in

          first test and

      20% medially,

        5% finally in second test.

E.C.2 (unreleased) occurs 10% medially (in <u>nineteen</u> /naɪn-tɪn/)

          in first test.

Conversations:

E.C.1 (omission) occurs 10-20% medially (in <u>pronounce</u> /pronoʊs/),

         5-10% finally (in <u>down</u> /doʊ/) in

         first interview and

        1-5% medially in second interview.

E.C.4 (replacement) occurs 1-5% as /ŋ/ medially and finally

           (in <u>find</u> /faɪŋ/ and <u>fine</u> /fɔɪŋ/)

          in first interview.

         1-5% as /k/ finally (as in <u>design</u>

          /desaɪk/) in first test.

Summary:

/n/ is not difficult to pronounce as a single consonant, but
is omitted 5-10% in clusters particularly before /t/ as in
<u>account</u> or /s/ as in <u>bouncer</u>, and in final position as in
<u>down</u>. It is also omitted before other consonants such as /d/
in <u>background</u> and /t/ as in <u>account</u>. It is replaced 5% with
/ŋ/ (in <u>lunged</u> /laŋɡət/), where it automatically changes before

mispronouncing /g/. It is also replaced 1-5% with /ŋ/ as in

find. Subjects showed 10% of errors in first test and 3% in

second test, an improvement of 7 percentage points or 70%.

/ŋ/

Single consonants (2 examples in singer, thing):

E.C.3 (over-articulation) occurs 50% as /ŋg/ medially (in

singer /sɪŋgɜː/),

10% as /ŋə/ finally (in

thing /θɪŋə/) in first

test and

40% as /ŋg/ in second test.

Consonant clusters (4 medial examples):

E.C.4 (replacement) occurs 5% as /n/ (in thanked /tɛnt/)

in both tests.

E.C.6 (extra phoneme) occurs 1% as /ŋ/ finally (in trudged

/drɛkŋ/) in first test.

Reading passages: (1 medial example):

E.C.4 (replacement) occurs 10% as /n/ (in thanked /tɛnt/)

in first test.

Conversations:

E.C.3 (over-articulation) occurs 1-5% as /ŋk/ medially (in

English /eŋklɪʃ/) and

1-5% as /ŋgə/ finally (as in

tongue _/taŋgǝ/)_ in

first interview.

E.C.4 (replacement) occurs 5-10% as /n/ finally (as in <u>studying</u>

/stadɪn/) in both interviews.

Summary:

/ŋ/ is replaced 10-20% with /n/ in clusters as in <u>thanked</u>

/tɛnt/ and 5-10% in final position as in <u>living</u>. It is

over-articulated 10-20% in medial and final positions as in

<u>toungue</u>. Subjects showed errors of 16% in first test and 8%

in second test, an improvement of 8 percentage points or 50%.

/l/

<u>Single consonants</u> (3 examles in <u>leg</u>, <u>teller</u>, <u>sell</u>):

E.C.4 (replacement) occurs 50% as /ʊ/ finally (in <u>sell</u> _/seʊ/)_

in first test and

10% in second test.

10% medially (in <u>teller</u> _/teʊǝ/))_

in both tests.

<u>Consonant clusters</u> (30 medial, 5 final examples):

E.C.1 (omission) occurs 20% medially (as in <u>sulks</u> _/saks/)_

in first test and

12% medially, in second test.

E.C.4 (replacement) occurs 36% as /ʊ/ finally (as in <u>able</u>

/eɪbʊ/),

17% medially (as in <u>sulks</u> _/saʊks/)_

126

in first test and

14% finally,

11% medially in second test.

4% as /ɹ/ medially (as in <u>films</u>
/fɪɹms/) in first test and

3% in second test.

3% as /n/ medially (as in <u>cults</u>
/kants/) in first test.

2% as /ɔ/ medially (as in <u>cults</u>
/kaɔs/) in first test and

1% as /ɔ:/finally (as in <u>haggle</u>
/hɛgɔ:/) in both tests.

1% as /m/ medially (in <u>helps</u> /hemps/)
in first test.

1% as /ŋ/ medially (in <u>cults</u> /kaŋks/)
in second test.

<u>Reading passages</u> (3 initial, 7 medial, 8 final examples):

E.C.1 (omission) occurs 29% finally (as in <u>handful</u> /hɛnfu:/),

11% medially (as in <u>difficult</u> /dɪfɪkɔ:t/)
in first test and

23% finally,

3% medially, in second test.

E.C.4 (replacement) occurs 38% as /ʊ/ finally (as in <u>people</u>
/bɪbʊ/),

3% medially (in <u>difficult</u> /dɪfɪkʊ/)
in first test and

127

31% finally,

1% medially in second test.

4% as /ɔː/ finally (as in <u>haggle</u> /hɛgɔː/) in first test and

3% in second test.

1% as /n/ medially and finally (in <u>although</u> /ɔndoʊ/ and <u>people</u> /piːpn/) in first test.

1% as /l/ medially (in <u>clearly</u> /klɪəlɪ/) in both tests.

1% as /w/ medially (in <u>personality</u> /pɜːsɔnəwɪtiː/) in first test.

E.C.5 (replacement) occurs 1% as /s/ finally (in <u>physical</u> /fɪzɪkəs/) in second test.

<u>Numbers 1-20</u> (2 medial examples):

E.C.4 (replacement) occurs 30% as /ʊ/ medially (in <u>twelve</u>) /tweʊv/ in both tests.

<u>Conversations</u>

E.C.1 (omission) occurs 5-10% medially (as in <u>help</u> /hep/),

1-5% finally (as in <u>full</u> /fʊ/)in first first interview and

1-5% medially and finally in second interview.

E.C.4 (replacement) /ʊ/ occurs 5-10% finally (as in <u>well</u> /weʊ/),

1-5% medially (as in <u>help</u> /heʊp/)

in first interview and

1-5% finally and medially in

second interview.

1-5% as /ə/ finally (as in

little /lɪtə/) in first

interview.

1-5% as /l/ and /r/ medially (as

in problem /prŏblem/ and

follow /fɔroʊ/),

1-5% as /ɔ:/ finally (as in

special /speʃɪɔ:/) in

first interview and

1-5% as /n/ finally (as in all

/ɔn/) in second interview.

Summary:

In medial and final positions /l/ is omitted 10-20% and replaced
10-20% with /ʊ/ as in people. It is also replaced 1-5% with
/ə/ as in films and 1-5% with /n/ in cults, /s/ in physical,
/r/ in follow, /ɔ:/ in haggle and /l/ in clearly. Subjects
showed 26% of errors in first test and 14% in second test,
an improvement of 12 percentage points or 46%.

/r/

Single consonants (2 examples in red, beret):

E.C.4 (replacement) occurs 10% as S.V. /r̃/ initially (in red

/r̃ed/),

129

40% medially (in <u>beret</u> /bereɪ/)

in first test and

20% initially,

30% medially, in second test.

<u>Consonant clusters</u> (18 medial examples):

E.C.1 (omission) occurs 1% (in <u>abbreviate</u> /ɵpi:vieɪt/)in both

tests.

E.C.4 (replacement) S.V. /r̃/ occurs 15% (as in <u>agree</u> /ɛgr̃i:/)

in first test and

12% in second test.

<u>Reading passages</u> (2 initial, 11 medial examples):

E.C.1 (omission) occurs 2% medially (as in <u>difference</u> /dɪfens/)

in first test.

E.C.4 (replacement) S.V. occurs 19% as S.V. /r̃/ medially (as in

<u>friendship</u> /fr̃enʃɪp/)

first test and

10% medially,

5% initially (in <u>relate</u>

/r̃ɪleɪt/) in second test.

2% as /w/ medially (in <u>prime</u>

/bwaɪm/) in both tests.

E.C.6 (extra phoneme) occurs 1% as S.V. /r̃/ (in <u>first</u> /fr̃ɜ:st/)

in first test.

130

<u>Numbers 1-20</u> (1 medial example):

E.C.4 (replacement) occurs 10% as S.V. /ř/ (in <u>three</u> /θři:/)

                    in first test and

                    20% in second test.

E.C.6 (extra phoneme) occurs 10% as S.V. /ř/ medially (in

                    <u>fourteen</u> /frɔ:ti:n/) in

                    both tests and

                    10% medially in (<u>fourteen</u>

                    /fɔ:r̃ti:n/) in first test.

<u>Conversations</u>:

E.C.1 (omission) occurs 1-5% medially (as in <u>from</u> /fɔm/) in

                    both interviews.

E.C.4 (replacement) occurs 10-20% as S.V. /ř/ medially (as

                    in <u>properly</u> /brɔbli:/) in

                    first interview,

                    5-10% in second interview and

                    1-5% initially (as in <u>wrong</u> /řɔŋ/)

                    in both interviews.

E.C.5 (replacement) occurs 1-5% as /l/ and /ʃ/ medially (in

                    <u>problem</u> /plɔblem/ and <u>structural</u>

                    /stʃaktʃə/)in first interview and

                    1-5% as /ʃ/ medially, in second

                    interview.

E.C.6 (extra phoneme) occurs 1-5% as S.V. /ř/ (in <u>too</u> /třu:/)

                    in first test.

Summary:

/r/ is replaced 10-20% with the flapped S.V. /ř/ as in <u>agree</u>,
mostly in medial and occasionally in initial position. It
is omitted 1-5% in medial position as in <u>favourable</u> and replaced
with /ʃ/ as in <u>try</u>, /w/ <u>initially</u> and /l/ <u>problem</u>. It is also
an extra phoneme 1-5% as in <u>first</u>. Subjects showed 17% of
errors in both tests, showing no improvement.

/j/

<u>Single consonants</u> (2 examples in <u>yaught</u>, <u>foyer</u>):

E.C.1 (omission) occurs 10% medially (in <u>foyer</u> /fɔ:ɜ:/) in
both tests.

E.C.4 (replacement) occurs 10% as /d/ initially (in <u>yaught</u>
/dɔt/),

30% as /ʒ/ initially (in <u>yaught</u>
/ʒɔt/),

10% as S.V. /ɉ/ medially (in <u>foyer</u>
/fɔɉɜ:/) in first test and

10% as /dʒ/ initially (in <u>yaught</u>
/dʒɔt/) in second test.

<u>Reading passages</u> (1 initial example):

E.C.1 (omission) occurs 10% (in <u>usually</u> /u:ɜli:/) in first test.

E.C.4 (replacement) occurs 10% as /z/ (in <u>usually</u> /zu:ɜlɪ/)
in second test.

132

Summary:

/j/ is replaced initially 5-10% with /d/ or /dʒ/ in <u>yaught</u>
and omitted or replaced with S.V. /ᶨ/ medially in <u>foyer</u> in
word lists. Subjects showed 18% of errors in first test and
10% in second test, an improvement of 8 percentage points
or 44%.

<div align="center">/w/</div>

<u>Single consonants</u> (2 examples in <u>wait, away</u>):
No errors recorded.

<u>Consonant clusters</u> (7 medial examples):
E.C.4 (replacement) occurs 3% as /r/ (as in <u>twice</u>

<div align="right">/traɪs/) in first test and</div>
<div align="right">1% in second test.</div>

E.C.5 (replacement) occurs 1% as /v/ (in <u>dissuade</u>

<div align="right">/dɪsveɪ/ in first test.</div>

<u>Reading passages</u> (7 initial, 1 medial example):
E.C.1 (omission) occurs 10% medially (in <u>aquainted</u> /ɛkɔnted/)

<div align="right">in first test.</div>

E.C.6 (extra phoneme) occurs 1% as /w/ finally (in <u>handful</u>

<div align="right">/hɛnfɔw/) in first test.</div>

<u>Numbers 1-20</u> (1 medial example):
E.C.4 (replacement) occurs 10% as /r/ medially (in <u>twenty</u>

<div align="right">/trenti:/) in first test.</div>

<div align="center">133</div>

Conversations:

E.C.6 (extra phoneme) occurs 1-5% finally (in like /laɪkw/
                                      and handful /hɛndfɔw/) in
                                      first interview.

Summary:

/w/ is not difficult to pronounce, particularly in initial
position where no errors occur. It is replaced 1-5% with /r/
in twenty and /v/ in dissuade, or omitted as in aquainted
in medial position. It is an extra phoneme 1-5% as in like.
Subjects showed 3% of errors in first test and none in second
test, an improvement of 3 percentage points or 100%.

5.4 Consonant clusters

/ps/

Word lists (2 examples in capsicum and maps):

E.C.1 (part omission ab→b) occurs 30% (in capsicum /kɛskʒm/)

in first test and

20% in second test.

No replacements are recorded in maps.

Subjects showed 15% of errors in first test and 10% in second
test, showing an improvement of 5 percentage points.
See summary below under /pr/.

/pt/

Word lists (2 examples in optics and jumped);

E.C.1(part omission ab→a) occurs 20% as /p/ (in jumped /dʒamp/)

in both tests.

(ab→b) 10% as /t/ (in jumped /dʒamt/)

in first test.

E.C.4(part replacement ab→cb) occurs 10% as /ft/ (in optics
/ɔftɪks/) in both tests.

E.C.6(added phoneme ab→acb) occurs 10% as /pst/ (in optics
/ɔpstɪks/) in first test.

Subjects showed 25% of errors in first test and 15% in second
test, an improvement of 10 percentage points.
See summary below under /pr/.

135

/pl/

Word lists (3 examples in please, applaud and apple).

E.C.1(part omission ab→a) occurs 10% as /p/ (in applaud /ɛpɔ/)

in first test.

E.C.4(part replacement ab→cb) occurs 40% as /bl/ (in please

/bli:z/),

10% as /bl/ (in applaud

/ɛblɔd/)in first test and

(ab→ac) 20% as /pʊ/ (in apple /ɛpʊ/)

in second test.

E.C.4(replacement ab→cd) occurs 10% as /bɔ:/ (in apple /ɛbɔ:/)

in first test.

Conversations:

E.C.4(part replacement ab→ac) occurs as /pɔ:/ (in example

/egsɛmpɔ:/).

E.C.4(replacement ab→cd) occurs as /bu:/ (in people /bɪbu:/).

Subjects showed 35% of errors in first test and 7% in second

test, an improvement of 28 percentage points.

See summary below under /pr/.

/pr/

Word lists (2 examples in prove and approve):

E.C.4(part replacement ab→ac) occurs 30% as /pr̃/ in first

test and

20% in second test.

136

30% as /pr̃/ (in approve /əpr̃u:v/)

in first test and

10% in second test.

E.C.4(replacement ab→cd) occurs 10% as /br̃/ (in prove /br̃u:v/)

in second test.

Conversations:

E.C.1(part omission ab→a) occurs as /p/ (in pronunciation

/pənansɪeɪʃən/).

E.C.4(part replacement ab→ac)occurs as /pr̃/(in problem

/prɔblem/) and

/pl/(in problem/plɔblem/).

E.C.4(replacement ab→cd) occurs as /br̃/ (in properly /brɔbli:/).

Subjects showed 30% of errors in first test and 20% in second
test, an improvement of 10 percentage points.

Summary (/ps/, /pt/, /pl/, /pr/):

In clusters, /p/ is omitted before /s/ 15% as in capsicum
in medial but not in final position. It is replaced with /f/
before /t/ 15% in optics in medial position and with /b/ before
/l/ 15% as in please in all positions, especially initial.
Following /p/, /r/ is replaced with S.V. /r̃/ 50% in prove.
Also, /l/ is omitted in medial position 5% in sublet and replaced
with /ʊ/, /ɔ:/ 40% as in apple in final position.

137

/bd/

Word lists (2 examples in abduct and grabbed):

E.C.1(part omission ab→b) occurs 10% as /d/ (in abduct/ɛdapt/)

in first test and

(ab→a) 10% as /b/ (in grabbed /grɛb/)

in both tests.

E.C.9(omission and replacement ab→c) occurs

10% as /p/(in grabbed

/grɛp/) in first test.

E.C.3(over-articulation) occurs 10% as /bdɚ/ (in grabbed

/grɛbdɚ/) in first test.

E.C.4(replacement ab→cd) occurs 60% as /pt/ in (grabbed /grɛpt/)

in first test and

50% in second test.

E.C.7(misreading ab→acb) occurs 10% as /bət/ (in grabbed

/grɛbət/) in first test and

10% as /pəd/(in grabbed/grɛpəd/).

E.C.10(part replacement and extra phoneme ab→cdb) occurs

10% as /pəd/ (in abduct /ɛpʃdakt/)

in second test.

Subjects showed 60% of errors in first test and 40% in second

test, an improvement of 10 percentage points.

See summary below under /br/.

<center>/bdʒ/</center>

<u>Conversations:</u>

E.C.4(part replacement ab→cb) occurs as /pdʒ/ (in <u>subjects</u>

<div align="right">/sapdʒeks/).</div>

See summary below under /br/.

<center>/bz/</center>

<u>Word lists</u> (2 examples in <u>absolve</u> and <u>ribs</u>):

E.C.1(part omission ab→c) occurs 10% as /s/ (in <u>absolve</u> /ɛsɔv/)

<div align="right">in both tests.</div>

E.C.4(part replacement ab→bc) occurs 80% as /ps/ (in <u>ribs/rɪps/</u>)

<div align="right">in first test and</div>

<div align="right">70% in second test.</div>

<div align="right">10% (in <u>absolve/ɛpsɔlv/</u>)</div>

<div align="right">in first test and</div>

<div align="right">70% in second test.</div>

<div align="right">(ab→bc) 10% as /ks/ (in <u>ribs</u></div>

<div align="right">/sɪks/) first test.</div>

E.C.8(permutation ab→acb) occurs 10% as /baːs/ (in <u>absolve</u>

<div align="right">/baːsɪ/) in both tests.</div>

Subjects showed 95% of errors in first test and 80% in second
test, an improvement of 5 percentage points.

See summary below under /br/.

<center>139</center>

/bl/

Word lists (3 examples in <u>black</u>, <u>sublet</u> and <u>able</u>):

E.C.1(part omission ab→c) occurs 10% as /p/ (in <u>sublet</u> /sapʒ/

in both tests.

E.C.4(part replacement ab→ac) occurs 40% as /bʊ/ (in <u>able</u>/eɪbʊ/)

in first test and

20% in second test.

(ab→cb) 10% as /pl/(in <u>sublet</u>

/saplet/) in first

test and

10% as /pl/ (in <u>black</u>

/plɛk/) in second test.

(ab→ac) 10% as /bɔ:/(in <u>able</u>/eɪbɔ:/)

in both tests.

Conversations:

E.C.1(part omission ab→a) occurs in <u>probably</u> as /probi:/.

E.C.4(part replacement ab→cb) occurs as /pl/ (in <u>problem</u>

/plɔblem/),

(ab→ac) /bʊ/ (in <u>double</u> /dabʊ/,

<u>possible</u>/pɔsɪbʊ/)and

(ab→ac)/bɔ:/(in <u>trouble</u>/trabɔ:/).

Subjects showed 20% of errors in first test and 13% in second
test, an improvement of 7 percentage points.
See summary below under /br/.

/br/

<u>Word lists</u> (2 examples in <u>break</u> and <u>abbreviate</u>):

E.C.4(part replacement ab→cb) occurs 10% as /pr/ (in <u>abbreviate</u>

/əprɪvɪeɪt/) in first

test and

20% in second test.

10% as /pr/ (in <u>break</u>

/prɛk/) and

(ab→ac) 10% as /br̃/ (in <u>break</u>

/br̃ɛk/) in both tests.

E.C.4(replacement ab→cd) occurs 10% as /pr̃/ (in <u>abbreviate</u>

/əpr̃ɪvɪeɪt/) in first test.

E.C.9(part omission ab→c) occurs 10% as /p/ (in <u>abbreviate</u>

/əpɪvɪeɪt/) in second test.

Subjects showed 20% of errors in first test and 25% in second
test, a regression of 5 percentage points.

<u>Summary</u> (/bd/, /bdʒ/, /bz/, /bl/, /br/):

In clusters, /b/ is replaced with /p/ 7% in initial position,
17% in medial position in /bdʒ/, /bd/, /bl/, /br̃/ as in
<u>abbreviate</u> and omitted before /d/ 3% in <u>abduct</u> in medial
position. In /bz/, this jumps to an overall replacement of
75% with /ps/ as in <u>absolve</u>. In medial position /bl/ and /br/
are replaced 15% with /p/, and in final position /bl/ is replaced
30% with /bʊ/ and /bɔ:/ as in <u>able</u>. In /br/, /r/ is replaced
15% with S.V. /r̃/ as in <u>break</u> and in conversation, /b/ is

141

replaced with /p/ as in subjects.

/ts/

Word lists (2 examples in patsy and sits):

E.C.1(part omission ab→b) occurs 60% as /s/ (in patsy /pɛsiː/)

in first test and

30% in second test.

20% as /s/ (in sits /sɪs/)

in both tests.

(ab→a) 10% as /t/ (in sits /sɪt/)

in second test.

E.C.4(part replacement ab→cb) occurs 10% as /ks/ (in sits

/sɪks/) in first test.

E.C.8(permutation ab→ba) occurs 10% as /st/ (in patsy /pɛstiː/)

in second test.

Conversations:

E.C.4(part replacement ab→b) occurs as /s/ (in that's /ðɛs/),

(it's /ɪs/) and

(parts /paːs/).

Subjects showed 55% of errors in first test and 10% in second
test, an improvement of 45 percentage points.
See summary below under /tw/.

$$/t\int t/$$

<u>Word lists</u> (2 examples in <u>pitched</u> and <u>watched it</u>):

E.C.1(part omission ab→b) occurs 10% as /t/ (in <u>pitched</u> /pɪt/)

in both tests.

(ab→a) 50% as /t∫/ (in <u>watched it</u>

/wɔt∫ɪt/)in first test and

40% in second test.

30% as /t∫/ (in <u>pitched</u>

/pɪt∫/) in first test and

20% in second test.

10% as /t∫əs/ (in <u>watches it</u>

/wɔt∫əsɪt/)in first test

and

10% as /t∫əs/ (in <u>pitched</u>

/pɪt∫əs/) in both tests.

E.C.4(part replacement ab→cb) occurs 10% as /∫t/ (in <u>watched it</u>

/wɔ∫tɪt/) and

E.C.4(replacement ab→cb) occurs 10% as /st/ (in <u>pitched</u>/pɪst/)

in first test and

E.C.7(misreading ab→acb) occurs 10% as /t∫ət/ (in <u>pitched</u>

/pɪt∫ət/)in first test and

(ab→acd) 10% as /t∫əd/ (in <u>pitched</u>

/pɪt∫əd/) in second test.

10% as /t∫əd/ (in <u>watched it</u>

/wɔt∫ədɪt/) in both tests.

E.C.9(replacement and omission ab→c) occurs

10% as /ts/ (in <u>watched it</u>

143

/wɔtsɪt/)in second test.

Subjects showed 75% of errors in first test and 50% in second test, an improvement of 25 percentage points.

See summary below under /tw/.

/tl/

Conversations:

E.C.4(part replacement ab→ac) occurs as /tɂ/ (in little /lɪtɂ/).

E.C.4(replacement ab→cd) occurs as /dɔ/ (in title /taidɔ/).

See summary below under /tw/.

/tr/

Word lists (2 examples in trick and attract):

E.C.4(part replacement ab→ac) occurs 20% as /tr̃/ (in attract
/ɛtr̃ɛkt/) in first
test and

10% in second test.

10% as /tr̃/ (in trick
/tf̃ɪk/)in both tests.

10% as /tʃ/(in trick/tʃɪk/)
in first test and

(ab→cb) 10% as /dr/ (in trick
/drɪk/) in second test.

144

<u>Conversations:</u>

E.C.1(part replacement ab→ac) occurs as /tʃ/ (in <u>try</u> ⟨tʃaɪ⟩) and

(ab→cd) /dř/ (in <u>try</u> ⟨dřaɪ⟩).

Subjects showed 20% of errors in first test and 15% in second

test, an improvement of 5 percentage points.

See summary below under /tw/.

/tw/

<u>Word lists</u> (2 examples in <u>twice</u> and <u>atwirl</u>):

E.C.4(part replacement ab→cb) occurs 20% as /dw/ (in <u>atwirl</u>

⟨ɛdwi:l⟩)in first

test and

10% as /gw/ (in <u>atwirl</u>

⟨ɛgwi:l⟩)in second test.

(ab→ac) 10% as /tr/(in <u>twice</u>⟨traɪs⟩)

in first test and

20% in second test.

10% as /tʃ/ (in <u>twice</u>

⟨tʃais⟩) in first test.

Subjects showed 20% of errors in first test and 15% in second

test, an improvement of 5 percentage points.

<u>Summary</u> (/ts/, /tʃt/, /tl/, /tr/, /tw/):

In clusters, /t/ is omitted 33% in /ts/ in <u>patsy</u> and reversed

3% as /st/ in <u>patsy</u>. In /tʃt/ the first /t/ is omitted 8%

145

in <u>watched</u>, and final /t/ is omitted 38% in <u>pitched</u>. /t/ is
replaced with /d/ 4% in /tl/, /tr/ and /tw/ as in <u>atwirl</u>.
/t/ is replaced 3% with /g/ in /tw/ <u>atwirl</u> and 3% with /k/
in /ts/ <u>sits</u>. /s/ replaces /tʃ/ 3% in /tʃt/ <u>pitched</u>, and /r/,
/ʃ/ replace /w/ 7% in /tw/ <u>twice</u>. S.V. /r̃/ replaces /r/ 13%
in /tr/ <u>trick</u>. Final /t/ becomes over- pronounced 8% as
/ət/ and /əd/ in /tʃt/ <u>pitched</u> and replaced with a different
form as /əs/ in <u>watched</u>. In final position in conversation
the /tl/ is replaced with /tə/ and /tɔ/ in <u>title</u>.

/dz/

<u>Word lists</u> (2 examples in <u>midzone</u> and <u>needs</u>):

E.C.1(part omission ab→b) occurs 50% as /s/ (in <u>needs</u> /nɪs/)

                in first test and

          30% in second test.

          10% as /z/ (in <u>midzone</u> /mɪzɔn/)

                in both tests.

          10% as /z/ (in <u>needs</u> /nɪz/)

                in second test.

E.C.4(part replacement ab→cb) occurs 20% (as /sz/ (in <u>midzone</u>

                /mɪszɔn/) and

          10% as /dʒ/ (in <u>midzone</u>

            /mɪdʒɔn/)in first test.

E.C.4(replacement ab→cd) occurs 50% as /ts/ (in <u>needs</u> /nɪts/)in

                first test and

          10% in second test.

          30% as /ts/ (in <u>midzone</u>

/mɪtsoʊn/) in first test and

10% in second test.

10% as /tdʒ/ (in <u>midzone</u>

/mɪtdʒɔn/)in both tests.

<u>Conversations</u>:

E.C.4(replacement ab→cd) occurs as /ts/ (in <u>words</u> /werts/) and

/k-s/ (in <u>words</u> /werk-s/).

E.C.9(omission and replacement ab→c) occurs as /s/ (in <u>words</u>

/wɔːs/).

Subjects showed 90% of errors in first test and 75% in second

test, an improvement of 15 percentage points.

See summary below under /dr/.

/dr/

<u>Word lists</u> (2 examples in <u>drink</u> and <u>adrift</u>):

E.C.1(part omission ab→b) occurs 10% as /r/ (in <u>drink</u> /rɪŋk/) and

10% as /r/ (in <u>adrift</u> /ərɪft/)

in first test.

E.C.4(part replacement ab→cb) occurs 40% as /tr/ (in <u>drink</u>

/trɪŋk/) and

40% as /tr/ (in <u>adrift</u>

/ɛtrɪft/)in first

test and

30% in second test.

(ab→ac) 10% as /dr/ (in <u>drink</u>

/drĩŋk/)in both tests.

20% as /dŕ/ (in <u>adrift</u>

/ɛdrĩft/)in second test.

<u>Conversations:</u>

E.C.4(part replacement ab→cb) occurs as /tr/ (in <u>Droop</u>

/tru:p/) and

(ab→ac) /dř/ (in <u>hydrolics</u>

/haɪdŕolɪks/).

Subjects showed 65% of errors in first test and 50% in second

test, an improvement of 15 percentage points.

<u>Summary</u> (/dz/, /dr/):

In clusters, /d/ is omitted 45% before /z/ and 10% before

/r/ as in <u>drink</u>. /d/ becomes /t/ and /z/ becomes /s/ 45% in

/dz/ <u>midzone</u> and /dř/ <u>drink</u>. /z/ becomes /ʒ/ 20% medially

as in <u>midzone</u>.

$$/ktʃ/$$

<u>Conversations:</u>

E.C.1(part omission ab→b) is /tʃ/ (in <u>actually</u> /ɛtʃəli:/).

See summary below under /kw/.

/ks/

<u>Conversations</u>:

E.C.1(part omission ab→a) occurs as /k/ (in <u>six</u> /sɪk/),

(ab→b) /s/ (in <u>accepted</u> as

/ɛsepted/),

(in <u>accent</u> /ɛsent/) and

(in <u>six</u> /sɪs/), 7 times.

See summary below under /kw/.

/kʃ/

<u>Conversations</u>:

E.C.1(part omission ab→b) occurs as /ʃ/ (in <u>introduction</u>

/ɪntrədaʃən/).

See summary below under /kw/

/kl/

<u>Word lists</u> (3 examples in <u>class</u>, <u>acclaim</u>, <u>tickle</u>):

E.C.4(part replacement ab→ac) occurs 30% as /kʊ/ (in <u>tickle</u>

/tɪkʊ/)in first

test and

20% in second test.

(ab→cb) 20% as /gl/ (in <u>class</u>

/gla:s/)in first

test and

30% in second test.

10% as /gl/(in <u>acclaim</u>
[ɛgleɪm])in second test.

10% as /k-l/ (in <u>acclaim</u>
[ɛk-leɪm]) and

10% as /ɣl/ (in <u>acclaim</u>
[ɛɣleim])in first test.

Conversations:

E.C.4(part replacement ab→cb) occurs as /gl/ (in <u>class</u> [gla:s]),
                                            twice and

/k-l/ (in <u>clearly</u> as
[k-lɪəli:]).

Subjects showed 35% of errors in first test and 30% in second
test an improvement of 5 percentage points.
See summary below under /kw/.

/kr/

<u>Word lists</u> (2 examples in <u>crate</u> and <u>across</u>):

E.C.1(part omission ab≠a) occurs 10% as /k/ (<u>across</u> [ɛkɔ$])
                                            in second test.

E.C.4(part replacement ab→cb) occurs 40% as /gr/ (in <u>across</u>
                                            [ɛgrɔs])in first test
                                            and
                                            30% in second test.
                                            30% as /gr/(in <u>crate</u>[greɪt])
                                            in first test and

150

40% in second test.

10% as /k-r/(in crate /k-reit/)

in first test.

(ab→ac) 10% as /kr̃/ (in across /ɛkr̃ɔs/)

in both tests.

20% as /kr̃/ (in crate /kr̃eɪt/)

in both tests.

Conversations:

E.C.4(part replacement ab→cb) occurs as /k-r/ (in Footscray

/fʊsk-reɪ/).

Subjects showed 55% of errors in first test and 60% in second

test a regression of 5 percentage points.

See summary below under /kw/.

/kw/

Word lists (2 examples in quick and aquire):

E.C.4(part replacement ab→cb) occurs in 10% as /gw/ (in quick

/gwɪk/ and

10% as /gw/ (in aquire

/ɛgwaɪə/) in both

tests.

Subjects showed 10% of errors in both tests.

151

Summary (/ktʃ/, /ks/, /k /, /kl/, /kr/, /kw/):
In clusters, /k/ is omitted in conversation in /ktʃ/, /ks/
and /kʃ/ as in <u>introduction</u> and replaced with /g/ 35% in /gr/
<u>across</u>, 15% in /kl/ <u>class</u> and 10% in <u>quick</u>. /k/ is also replaced
in /kl/ 10% with S.V. /ɣ/, /k-l/ in <u>acclaim</u> and /l/ is replaced
with /ʊ/ in <u>tickle</u>. In /kr/, /r/ is replaced 15% with S.V.
/r̃/ as in <u>crate</u>.

/gl/

<u>Word lists</u> (3 examples in <u>gloss</u>, <u>aglo</u>, <u>haggle</u>):

E.C.4(part replacement ab→ac) occurs 50% as /gʊ/ (in <u>haggle</u>
/hɛgʊ/) in first
test and
10% in second test.
10% as /gɔ:/(in <u>haggle</u>
/hɛgɔ:/)in second
test.
(ab→cb) 40% as /kl/ (in <u>gloss</u>
/klɕs/) in first test and
20% in second test.
30% as /kl/ (<u>aglo</u> /ɛkloʊ/)
in both tests.
10% as /ɣl/ (in <u>gloss</u>
/ɣlɔs/)in first test.
10% as /ɣl/ (<u>aglo</u>/ɛɣloʊ/)
in first test.
10% as /k-l/ (<u>aglo</u>/ɛk-loʊ/)

in both tests.

E.C.4(replacement ab→cd) occurs 10% as /bɔ/ (in haggle /mɛbɔ/)

in first test.

10% as /kʊ/ (in haggle /hɛkʊ/)

in second test.

Subjects showed 53% of errors in first test and 27% in second
test, an improvement of 26 percentage points.
See summary below under /gr/.

/gr/

Word lists (2 examples in grey and agree):

E.C.4(part replacement ab→cb) occurs 30% as /kr/ (in grey

/kreɪ/) in both tests.

30% as /kr/ (in agree

/ɛkriː/) in first

test and

20% in second test.

20% as /ɣr/(in grey/ɣreɪ/)

in first test and

10% in second test.

10% as /ɣr/(in agree/ɛɣriː/)

in both tests.

10% as /kgr/ (in agree

/ɛkgriː/) in first test.

(ab→ac) 20% as /gr̃/ (in agree

153

ʃegri:ʃ)and

10% as /gr̃/ (in grey ʃgr̃eɪʃ)

in both tests.

Conversations:

E.C.4(part replacement ab→cb) occurs as /kr/(in great ʃkreitʃ) and

(programmer ʃproʊkrɛmɚʃ).

Subjects showed 60% of errors in first test and 40% in second
test, an improvement of 20 percentage points.

Summary (/gl/, /gr/):

In clusters, /g/ is replaced with /k/ 40% in all positions
as in grey, but only 10% before /l/ when it is in final position
in haggle. /k/ is also replaced 15% with S.V. /ɤ/ as in gloss,
and 10% with /b/ in haggle. /l/ is replaced in final position
50% with /ʊ/, 10% with /ɔ/ and 10% with /ɔ:/ as in haggle.
It is over-pronounced 10% as /kgr/ in agree.

$$/dʒd/$$

Word lists (2 examples in trudged, dodged around):

E.C.1(part omission ab→a) occurs 30% as /dʒ/ (in dodged around

ʃdɔdʒɚraunʃ)in first

test and

20% in second test.

10% as /dʒ/ (in trudged

ʃtʃadʒʃ)in both tests.

154

(ab→cb) 10% as /d/ (in <u>dodged around</u>

/dɔdǝraʊn/) in first test.

E.C.3(part over-articulation ab→ac)occurs 10% as/dʒǝt/(in <u>trudged</u>

/tʃadʒǝt/) and

10% as /dʒǝt/ (in <u>dodged</u>

<u>around</u>/dɔdʒǝtǝraʊnt/)

in first test.

E.C.4(part replacement ab→cb) occurs 20% as /tʃt/ (in <u>trudged</u>

/tratʃt/)in first

test and

10% in second test.

10% as /tʃt/ (<u>dodged around</u>

/dɔtʃtǝraʊn/)in

both tests.

E.C.4(replacement ab→cd) occurs 10% as /gǝd/ (in <u>dodged</u>

<u>around</u> /dɔgǝdaraʊn/

in second test.

10% as /kt/(in <u>trudged</u> /trakt/),

10% as /gɔ:/(in <u>trudged</u>/tragɔ:/),

10% as /kŋ/ (in <u>trudged</u> /trakŋ/),

10% as /gǝs/ (in <u>dodged around</u>

/dɔgǝsǝraʊn/),

10% as /gɪ/ (in <u>dodged around</u>

/dɔgɪaraʊn/) and

10% as /kɪ/ (in <u>trudged</u> /drakɪ/)

in first test.

10% as /gt/ (in <u>trudged</u> /dragt/),

10% as /st/ (in <u>trudged</u> /trast/) and

10% as /tszʔ/ (in <u>trudged</u>

/trɔ:tszʔ/) in second test.

E.C.9 (omission and replacement ab⇒c) occurs

20% as /tʃ/ (in <u>dodged around</u>

/dotʃəravn/ in first test and

10% in second test.

10% as /tʃ/ (in <u>trudged</u>

/tratʃ/) in second test.

10% as /g/ (in <u>dodged around</u>

/dɔgɛravn/) in both tests.

10% as /k/ (in <u>trudged</u> /tʃak/)

in second test.

E.C.11 (over-articulation and omission ab⇒a) occurs

10% as /dʒʔ/ (in <u>trudged</u>

/dʒadʒʔ/) in second test.

E.C.12 (replacement and over-articulation ab⇒cb) occurs

10% as /dəzda/ (in <u>trudged</u>

/trovdəzda/) in first test.

Subjects showed 100% of errors in first test and 80% in second
test, an improvement of 20 percentage points.

<u>Summary</u> (/dʒd/):

/dʒd/ is extemely difficult fo S.V. speakers, having 100%
of odd errors. Final /d/ is omitted 45% as in <u>dodged</u> and has

156

20% of over-articulations as /dʒət/ in _trudged_. /t/ replaces /d/ 25% as in _dodged_ and /k/ replaces /dʒ/ 40% in _trudged_. /dʒ/ is also replaced 20% with /g/ as in _dodged_ and 10% with /d/ as in _dodged_. Final /d/ is replaced 10% with /ɔ:/ and /ɪ/ in _trudged_.

/ft/

Word lists (2 examples in _crafty_, _lift_):

E.C.1(part omission ab→a) occurs 10% as /f/ (in _crafty_

/krɛfɪ/)and

10% as /f/ (in _lift_ /lɪf/)

in second test.

(ab→ b) 10% as /t/ (in _lift_ /wet/)

in first test.

E.C.4(part replacement ab→cb) occurs 10% as /pt/ (in _lift_/lɪpt/)

in first test.

Subjects showed 15% of errors in first test and 10% in second test, an improvement of 5 percentage points.
See summary below under /fr/.

/fθ/

Word lists (2 examples in _fifth_ and _fifth on_):

E.C.1(part omission ab→a) occurs 40% as /f/ (in _fifth on_ /fɪfɔn/)

in first test and

10% in second test.

10% as /f/ (in _fifth_ /fɪf/)

157

in both tests.

E.C.4(part replacement ab→ac) occurs 20% as /ft/ (in <u>fifth</u>

                                              /fɪft/) in first

                                              test and

                                              10% in second test.

                                              10% as /ft/ (in <u>fifth on</u>

                                              /fɪftɔn/)in both tests.

Subjects showed 35% of errors in first test and 20% in second

test, an improvement of 15 percentage points.

See summary below under /fr/.

                              /fs/

<u>Word lists</u> (2 examples in <u>laughs, coughs at</u>):

E.C.1(part omission ab→b) occurs 30% as /s/ (in <u>coughs at</u>

                                              /kɔsɛt/ in first test and

                                              10% in second test.

                              (ab→a) 10% as /f/ (in <u>coughs at</u>

                                              /kɔfət/) in both tests and

                                              10% as /f/ (in <u>laughs</u> /la:f/)

                                              in second test.

E.C.4(part replacement ab→cb) occurs 10% as /vs/ (in <u>laughs</u>

                                              /lavs/) in second test.

Subjects showed 15% of errors in first test and 20% in second

test, a regression of 5 percentage points. See summary below

under /fr/.

Conversations:

E.C.4(part replacement ab→cb) occurs as /sl/ (in flat /slɛt/).

See summary below under /fr/.

/fr/

Conversations:

E.C.1(part omission ab→a) occurs as /f/ (in friendly /fenli:/).

Summary (/ft/, /fθ/, /fs/, /fl/, /fr/):

/f/ is omitted before /s/ 30% in coughs at and 10% before /t/ in lift. /f/ is replaced with /v/ 10% in laughs, with /p/ 10% in lift and with /s/ in flat, in conversation. The letter following /f/ is omitted 25% in fifth, 10% in laughs and in friendly, in conversation. Following /f/, /θ/ becomes /θt/ 20% in fifth.

/vd/

Word lists (2 examples in loved, moved over):

E.C.3(over-articulation ab→abc) occurs 10% as /vdʒ/(in moved over /mʊvdʒoʊvɜ/) and 10% as /vdʒ/ (in loved /lavdʒ/)in first test.

E.C.7(misreading ab→acd) occurs 10% as /vɟt/ (in loved /lavɟt/) in second test.

E.C.4(part replacement ab→cd) occurs 60% as /ft/ (in loved/laft/)

in both tests.

40% as /ft/ (in moved over

/muftoʊvɚ/)in first

test and

20% in second test.

Subjects showed 75% of errors in first test and 45% in second
test, an improvement of 30 percentage points.
See summary below under /vz/.

/vz/

Word lists (2 examples in moves, leaves on):

E.C.1(part omission ab→a) occurs 20% as /v/ (in moves /mʊv/),

10% as /v/ (in lives on/lɪvɔn/),

(ab→b) 10% as /z/ (in moves /mʊz/)

in second test.

E.C.4(part replacement ab→cb) occurs 10% as /fz/ (in lives on

/li:fzɔn/)in first test.

E.C.4(replacement ab→cd) occurs 40% as /fs/ (in moves /mʊfs/) in

first test and

20% in second test.

20% as /fs/ (in leaves on

/lɪfsɔn/)in first test and

30% in second test.

E.C.7(misreading ab→acd) occurs 10% as /vɚs/ (in moves /mʊvɚs/)

in second test.

E.C.9(omission and replacement ab→c) occurs

10% as /f/ (in <u>moves</u> /mʊf/)

10% as /f/ (in <u>leaves on</u>/lɪfɔn/),

in first test.

E.C.11(omission and over-articulation ab→bc) occurs

10% as /zə/ (in <u>moves</u> /mʊzə/)

in both tests.

Subjects showed 50% of errors in first test and 55% of errors

in second test, a regression of 5 percentage points.

<u>Summary</u> (/vd/, /vz/):

/v/ becomes /f/ 50% in all words and is omitted 20% in <u>moves</u>.

/d/ becomes /t/ 55%, /f/ is omitted 20% and /d/ is over

articulated 10% in <u>moved over</u>. /d/ is misread 10% in <u>loved</u>

and <u>moves</u>.

/θt/

<u>Word lists</u> (2 examples in <u>bathed</u>, <u>both turned</u>):

E.C.1(part omission ab→a) occurs 20% as /θ/ (in <u>bathed</u> /ba:θ/)

in first test and

40% in second test.

(ab→b) 20% as /t/ (in <u>bathed</u> /bɛt/)

in first test and

10% in second test.

20% as /t/ (<u>both turned</u>

/bɔ:tɜ:nd/) in first test.

E.C.3(part over-articulation ab→acb)occurs 10% as /θ∂t/(in both

turned

/boʊθ∂tɜ:nd/)

in second test.

E.C.11(omission and over-articulation ab→c) occurs

10% as /ð∂/ (in bathed /bɛ ð∂/)

in second test.

Subjects showed 30% of errors in first test and 35% of errors
in second test, a regression of 5 percentage points.
See summary below under /θr/.

/θs/

Word lists (2 examples in baths baths a):

E.C.1(part omission ab→b) occurs 20% as /s/(in bathes/ba:s/) and

40% as /s/(in bathes a /ba:sa/)

in first test.

10% as /θ/ (in bathes/ba:θ/) and

20% as /θ/ (in bathes a/ba:θa/)

in both tests.

E.C.4(part replacement ab→cb) occurs 10% as /fs/ (in baths

/ba:fs/) in first test.

E.C.9(omission and replacement ab→c) occurs

10% as /t/ (in baths /bɛt/)

in both tests.

10% as /t/ (in bathed a

/ba:ta/) in first test.

E.C.11(omission and over-articulation ab→a) occurs

$\qquad$ 10% as /θ₮/ (in bathed a

$\qquad$ [beɪθ₮-a]) in second test.

Subjects showed 60% of errors in first test and 25% in second

test, an improvement of 35 percentage points.

See summary below under /θr/.

<center>/θr/</center>

Conversations:

E.C.4(part replacement ab→cb) occurs as /tr/ (in three [triː]),

$\qquad$ five times.

Summary (/θt/, /θs/, /θr/):

/θ/ is omitted 30% as in baths, is replaced with /t/ 20% as

in bathed, replaced with /f/ 10% in baths and replaced with

/ð/ 5% in bathed. /s/ is omitted 25% as in baths and /t/ is

omitted 20% as in bathed. Final /t/ becomes /₮/ 10% as in

bathed.

<center>/ðd/</center>

Word lists (2 examples in loathed, clothed us):

E.C.1(part omission ab→b) occurs 10% as /d/ (in loathed [lɔd])

$\qquad$ in first test and

$\qquad$ 10% as /d/ (in clothed us

$\qquad$ [kloʊdas]) in second test.

$\qquad$ (ab→a) 10% as /ð/ (in loathed [loʊð])

$\qquad$ in second test.

<center>163</center>

E.C.4(replacement ab→cd) occurs 30% as /θt/ (in <u>loathed</u> /loʊθt/)

                in first test and

           50% in second test.

           20% as /st/ (in <u>clothed us</u>

              /kloʊstas/)in both tests.

           20% as /θs/ (in <u>clothed us</u>

              /kloʊθsas/)in first test and

           10% in second test.

           10% as /θt/ (in <u>clothed us</u>

              /klɔθtas/)in first test and

           40% in second test.

           10% as /k-ʔt/ (in <u>clothed us</u>

              /kloʊk-ʒtas/) in first test.

E.C.4(part replacement ab→ac) occurs 10% as /ʒʔ/ (in <u>clothed us</u>

              /klɔʒʔas/)in both tests.

           10% as /ʒʔ/ (in <u>loathed</u>

              /lɔʒɚ/) in first test.

E.C.9(omission and replacement ab→c) occurs

           30% as /θ/ (in <u>loathed</u> /loʊθ/)

              in first test and

           20% in second test.

           10% as /θ/ (in <u>clothed us</u>

              /kloʊθas/) in first test.

           10% as /t/ (in <u>loathed</u> /lɔt/)

           in both tests.

E.C.11(omission and over-articulation ab→b)

           20% as /dʔ/ (in <u>loathed</u> /loʊdɚ/)

164

in first test.

Subjects showed 90% of errors in both tests.

See summary below under /ðz/.

/ʒz/

Word lists (2 examples in <u>bathes</u> and <u>bathes in</u>):

E.C.1(part omission ab→b) occurs 10% as /z/ (in <u>bathes in</u>

/beɪzɪn/) in both tests.

(ab→a) 10% as /ð/ (in <u>bathes</u> /beð/)

in second test.

E.C.4(part replacement ab→cb) occurs 10% as /dz/ (in <u>bathes in</u>

/bɛdzɪn/) in first test.

E.C.4(replacement ab→cd) occurs 40% as /θs/ (in <u>bathes</u>/beɪθs/) in

first test and

20% in second test.

20% as /θs/ (in <u>bathes in</u>

/beɪθsɪn/)in first test and

30% in second test.

10% as /ʃt/ (in <u>bathed</u> /beɪʃt/)

in second test.

E.C.7(misreading ab→acb) occurs 20% as /ðəz/(in <u>bathes</u> /beɪðəz/)

(ab→cde) 10% as /θəs/ (in <u>bathes in</u>

/bɛθəsin/)in first test and

30% in second test.

10% as /θəs/ (in <u>bathes</u>

/bɛθəs/) in second test.

E.C.9(omission and replacement ab→c) occurs

> 20% as /θ/ (in <u>bathes</u> /ba:θ/) in
>
> first test.
>
> 10% as /s/ (in <u>bathes</u> /bɛs/) in
>
> second test.
>
> 20% as /s/ (in <u>bathes in</u> /beɪsɪn/)
>
> in first test and
>
> 10% in second test.
>
> 10% as /θ/ (in <u>bathes in</u> /ba:θɪn/)
>
> in first test and
>
> 10% as /ʒ/, /baɪʒɪn/ in second test.

Subjects showed 85% of errors in first test and 70% in second test, an improvement of 15 percentage points.

Summary (/ðd, /ðz/):

/ð/ is omitted 20% and /ðd/ is replaced with /d/ 13% as in <u>loathed</u>. It is also replaced 15% with /s/ and with /θ/ as in <u>bathes</u>. Final /t/ is omitted 30%, replaced with /d/ 40% and with /ə/ 20% as in <u>loathed</u>. Final /z/ is omitted 20%, replaced with /s/ 50% and with /t/ 5% as in <u>bathes</u>.

/sp/

Word lists (3 examples in <u>speak</u>, <u>aspire</u>, <u>gasp</u>):

E.C.1(part omission ab→b) occurs 20% as /p/ (in <u>gasp</u> /gep/)

> in first test.

E.C.3(over-articulation ab→abc) occurs 10% as /spə/(in <u>gasp</u>

$\text{\textipa{[g\textepsilon sp\textschwa]}}$) in first test.

E.C.6(extra phoneme ab→bab) occurs 10% as /psp/ (in <u>gasp</u>$\text{\textipa{[g\textepsilon psp]}}$)

                 in second test.

E.C.8(permutation ab→ba) occurs 20% as /ps/ (in <u>gasp</u> $\text{\textipa{[g\textepsilon ps]}}$)

                 in first test and

                 40% in second test.

Subjects showed 17% of errors in both tests.

<div align="center">/st/</div>

<u>Word lists</u> (3 examples in <u>stand</u>, <u>master</u> , <u>fast</u>):

E.C.3(over-articulation ab→abc)occurs 20% as /st\textschwa/ (in <u>fast</u>

                 $\text{\textipa{[fa:st\textschwa]}}$)in first test.

<u>Conversations</u>:

E.C.1(omission) occurs (in <u>least</u> $\text{\textipa{[li:]}}$), twice and

             (in <u>postcode</u> $\text{\textipa{[po\textupsilon ko\textupsilon d]}}$).

E.C.1(part omission ab→a) occurs as /s/ (in <u>least</u>$\text{\textipa{[li:s]}}$)

                   seven times,

                   (in <u>just</u> $\text{\textipa{[d\textyogh as]}}$) twice,

                   (in <u>first</u> $\text{\textipa{[fi:s]}}$),

                   (in <u>last</u> $\text{\textipa{[la:s]}}$) and

                   (in <u>most</u> $\text{\textipa{[mo\textupsilon s]}}$).

                 (ab→b) /t/ (in <u>interesting</u>

                   $\text{\textipa{[int\textepsilon retIN]}}$).

E.C.4(part replacement ab→ac) occurs as /s\textesh/ (in <u>question</u>

                   $\text{\textipa{[ques\textesh\textschwa n]}}$).

<div align="center">167</div>

Subjects showed 7% of errors in first test and none in second
test, an improvement of 7 percentage points.
See summary below under /sw/.

/sk/

Word lists (3 examples in sky, busker, ask):
No replacements recorded.

Conversations:
E.C.1(part omission ab→a) occurs as /s/ (in ask /a:s/), twice.

Subjects showed no errors in tests.
See summary below under /sw/.

/sm/

Word lists (3 exmples in smile, asthma, possum):
No replacements recorded.

Subjects showed no errors in tests.
See summary below under /sw/.

/sn/

Word lists (3 examples in sniff, asnare, bosun):
No replacements recorded.

Subjects showed no errors in tests.

See summary below under /sw/.

/sw/

Word lists (2 examples in <u>switch</u>, <u>dissuade</u>):

E.C.4(part replacement ab→ac) occurs 10% as /sʊ/ (in <u>dissuade</u>

[dɪsʊet] and

10% as /sv/ (in <u>dissuade</u>

[dɪsveɪ]) in first test.

Subjects showed 10% of errors in first test and no errors
in second test, an improvement of 10 percentage points.

Summary (/sp/, /st/, /sk/, /sm/, /sn/, /sw/):
In /sp/ there is a 20% omission of /s/, a 20% permutation
of /s/ and /p/ and 10% replacements with /spʔ/ and /psp/ in
<u>gasp</u>, but not elsewhere. In /st/, there is a 10% replacement
of /stʔ/ in <u>fast</u> in word lists and odd replacements of /t/
in <u>interesting</u> and replacement of /s/ as well as an omission
in <u>least</u>, in conversations. /k/ is omitted in /sk/ <u>ask</u> in
conversations, and in word lists /sw/ is replaced 10% with
/ʊ/ and /v/ in <u>dissuade</u>.

/zd/

Word lists (2 replacements in <u>Mazda</u>, <u>dozed</u>):

E.C.1(part omission ab→b) occurs 20% as /d/ (in <u>Mazda</u> [mada])

in first test and

10% in second test.

169

10% as /z/(in <u>dozed</u> /doʊz/)

in first test and

30% in second test.

E.C.4(part replacement ab→cb) occurs 40% as /sd/ (in <u>Mazda</u>

/m̃ɛsda/)in first

test and

50% in second test.

E.C.4 (replacement ab→cd) occurs 30% as /st/ (in <u>dozed</u> /doʊst/),

10% as /st̪/ (in <u>Mazda</u> /masta/)

in first test and

20% in second test.

E.C.6(added phoneme ab→acb) occurs 10% as /znd/ (in <u>dozed</u>

/doʊznd/)in both tests.

E.C.9(omission and replacement ab→c) occurs

10% as /t/ (in <u>dozed</u>/doʊt/) and

10% as /n/ (in <u>dozed</u> /dɔn/)

in first test.

E.C.13(replacement and added phoneme ab→cdb) occurs

10% as /ksd/, /m̃ɛksda/ in first

test and

10% as /tsd/, /m̃ɛtsda/ in

second test.

Subjects showed 75% of errors in first test and 65% in second

test, an improvement of 10 percentage points.

See summary below under /zn/.

Word lists (3 examples in cosmos, chasm, excuse me):

E.C.1(part omission ab→b) occurs 20% as /m/ (in chasm /kɔmɔs/)

in both tests.

E.C.1(omission) occurs 10% (in chasm /tʃa/) in second test.

E.C.4(part replacement ab→cb) occurs 80% as /sm/ (in cosmos

/kɔsmɔs/) in both tests.

60% as /sm/ (in excuse me

/ekskrʊsmiː/) in

first test and

40% in second test.

30% as /sm/ (in chasm

/tʃasm/) in both tests.

E.C.4(replacement ab→cd) occurs 10% as /sp/ (in chasm /tʃasp/)

in first test.

E.C.8(permutation ab→ba) occurs 30% as /ms/ (in chasm /tʃams/)

in first test and

20% in second test.

E.C.9(repacement and omission ab→c) occurs

10% as /s/ (in chasm /tʃɛs/)

in first test.

Subjects showed 77% of errors in first test and 67% in second

test, an improvement of 10 percentage points.

See summary below under /zn/.

$$/zn/$$

Word lists (2 examples in <u>business</u>, <u>poison</u>):

E.C.4(part replacement ab→cb) occurs 60% as /sn/ (in <u>poison</u>

/pɔɪsn/) in first

test and

50% in second test.

20% as /sn/ (in <u>business</u>

/bɪsnes/)in first

test and

10% in second test.

E.C.13(replacement and added phoneme ab→cdb) occurs

10% as /sɪn/ (in <u>business</u>

/bɪsɪnes/) in both tests.

Subjects showed 45% of errors in first test and 35% in second test, an improvement of 10 percentage points.

Summary (/zd/, /zm/, /zn/):

In all clusters, /s/ replaces /z/ 53% and is omitted 25% in /zd/ and /zm/ as in <u>dozed</u> and <u>cosmos</u>. /z/ is also replaced 10% with /ts/ and /ks/ in <u>Mazda</u>. /d/ becomes /t/ 10% as in <u>Mazda</u>. /zd/ is replaced with /n/ 10% and /n/ is added 10% in <u>dozed</u>. /m/ is omitted 10% and replaced with /p/ 10% in <u>chasm</u>.

$$/\int r/$$

Word lists (2 examples in <u>shriek</u>, <u>ashram</u>):

E.C.1(part omission ab→a) occurs 20% as /∫/ (in <u>shriek</u> /∫ɪk/)and

172

20% as /ʃ/ (in <u>ashram</u> /ɛʃʼam/)

in first test.

E.C.4(part replacement ab→cb) occurs 10% as /sr/ (in <u>shriek</u>

/srɪk/) in both tests.

10% as /sr/ (in <u>ashram</u>

/ɛsrɛm/)in both tests.

(ab→ac) 10% as /ʃr̃/ (in <u>ashram</u>

/ɛʃr̃ɛm/)in first test.

10% as /ʃw/ (in <u>shriek</u>

/ʃwɪk/) in second test.

E.C.4(replacement ab→cd) occurs 10% as /sr̃/ (in <u>shriek</u> /sr̃aɪa/),

10% as /ʃ⁻r̃/(in <u>ashram</u>/ʃ⁻r̃ɛm/),

10% as /ʃ⁻l/ (in <u>ashram</u>/ɛʃ⁻lɛm/),

10% as /sw/ (in <u>shriek</u> /swɪk/)

in first test and

10% as /sl/ (in <u>shriek</u> /sli:d/)

in second test.

E.C.9(replacement and omission ab→c) occurs

10% as /ʃ⁻/(in <u>ashram</u>/ɛʃ⁻ɛ m/)

in second test.

E.C.13(replacement and added phoneme ab→cdb) occurs

10% as /skr/ (in <u>shriek</u> /skri:k/)

in second test.

Subjects showed 55% of errors in first test and 30% in second

test, an improvement of 25 percentage points.

Summary (/ʃr/):

/ʃr/ is replaced with /s/ 25% and with /ʃ‾/ 10% as in <u>ashram</u>.
/r/ is omitted 20%, replaced with /ŕ/ 15% and replaced with
/l/ 10% as in <u>ashram</u>. /r/ is replaced with /w/ 20% and has
a phoneme added 10% as /ʃkr/ in <u>shriek</u>.

/nt/

<u>Word lists</u> (2 examples in <u>pointed</u>, <u>don't</u>):

E.C.1(partial omission ab→b) occurs 20% as /t/ (in <u>pointed</u>
/pɔɪtəd/) in first
test and
10% in second test.

E.C.9(omission and replacement ab→c) occurs
10% as /d/ (in <u>pointed</u>
/pɔɪdəd/) in first test.

<u>Conversations</u>:

E.C.1(part omission ab→b) occurs as /t/ (in <u>ninety</u>/naɪti:/) and
(ab→a) /n/ (in <u>improvement</u>
/ɪmprouvmen/),
(<u>currently</u>/karenli:/) and
(<u>can't</u> /ka:n/).

E.C.1(omission) occurs (in <u>can't</u> /ka:/) and
(<u>ninety</u> /naₐti:/).

Subjects showed 15% of errors in first test and 10% in second
test, an improvement of 5 percentage points.
See summary below under /nl/.

174

$$/nt\int/$$

<u>Word lists</u>(2 examples in <u>launcher</u> and <u>paunch</u>):

E.C.1(part omission ab→b) occurs 30% as /tʃ/ (in <u>paunch</u> /bɑʊtʃ/)

                              in first test and

                          10% in second test.

                          10% as /tʃ/ (in <u>launcher</u>

                          /lɑʊtʃɜː/) in second test.

E.C.4(part replacement ab→ac) occurs 20% as /ndʒ/ (in <u>launcher</u>

                          /lɔːndʒɜː/)in first test.

E.C.9(omission and replacement ab→c) occurs

                          10% as /dʒ/ (in <u>launcher</u>

                          /lɑʊdʒə/) in both tests.

E.C.13(added phoneme and part replacement ab→acd) occurs

                          10% as /ntʃ/ (in <u>paunch</u>

                          /pɑʊntʃ/) in first test.

Subjects showed 40% of errors in first test and 15% in second

test, an improvement of 25 percentage points.

See summary below under /nl/.

$$/nd/$$

E.C.1(part omission ab→a) occurs 10% as /n/ (in <u>pond</u> /pɔn/)

                          in both tests.

E.C.3(part over-articulation ab→abc)occurs 10% as /ndə/(in <u>pond</u>

                          /pɔndə/) in first test.

E.C.4(part replacement ab→ac) occurs 30% as /nt/ (<u>pond</u> /pɔnt/)

                          in first test and

Conversations:

E.C.1(omission) occurs (in <u>find</u> /faɪ/), twice,

(<u>end</u> /e/) and

(<u>understand</u> /andəstɛ/).

E.C.1(part omission ab→a) occurs

as /n/ (in <u>friend</u> /fren/), 4 times,

(<u>understand</u> /anɜstɛnd/) twice,

(<u>understand</u>/andɜstɛn/) twice and

(ab→b) as /t/ (in <u>sound</u> /saʊt/).

E.C.9(Part omission and replacement ab→c) occurs

as /ŋ/ (in <u>understand</u> /anəstɛŋ/).

Subjects showed 20% of errors in first test and 15% in second

test, an improvement of 5 percentage points.

See summary below under /nl/.

/ndʒ/

<u>Word lists</u> (2 examples in <u>stranger</u>, <u>change</u>):

E.C.4(part replacement ab→ac) occurs 10% as /ntʃ/ (in <u>stranger</u>

/strɛntʃɜ:/),

40% as /ntʃ/ (in <u>change</u>

/tʃɛntʃ/) in first

test and

20% in second test.

10% as /nʒ/ (in <u>change</u>

176

/tʃɛnʒ/) in both tests.

E.C.7(misreading ab→cd) occurs 10% as /ŋg/ (in <u>stranger</u>

/strɛŋgʒ/) and

(ab→c) 10% as /ŋ/ (in <u>stranger</u> /strɛnɛ:/)

in first test.

<u>Conversations:</u>

E.C.3(over-articulation ab→abc) occurs as /ndʒʒ/ (in <u>arrange</u>

/areɪndʒʒ/).

E.C.4(part replacement ab→ac) occurs (in <u>enjoy</u> /entʃɔɪ/).

Subjects showed 40% of errors in first test and 20% in second
test, an improvement of 20 percentage points.
See summary below under /nl/.

<div align="center">/nθ/</div>

<u>Word lists</u> (2 examples in <u>menthol</u>, <u>tenth</u>):

E.C.1(part omission ab→a) occurs 10% as /n/ (in <u>tenth</u> /ten/)

in first test and

20% in second test.

E.C.4(part replacement ab→ac) occurs 40% as /nt/ (in <u>menthol</u>

/mentɔ:/) and

10% as /nt/ (in <u>tenth</u>/tent/)

in both tests.

E.C.9(part omission and replacement ab→c) occurs

10% as /t/ (in <u>menthol</u> /metɔn/)

in first test.

Subjects showed 35% of errors in both tests.

See summary below under /nl/.

/ns/

Word lists (2 examples in bouncer, once):

E.C.1(part omission ab→b) occurs 70% as /s/ (in bouncer /bɑʊsə/)

in first test and

30% in second test.

E.C.4(part replacement ab→cb) occurs 10% as /ŋs/ (in bouncer

/boʊŋsə/,

10% as /ŋs/(in once /waŋs/)and

10% as /uːs/ (in bouncer

/boʊuːsə/ in second test.

E.C.9(part omission and replacement ab→c) occurs

10% as /d/ (in bouncer /pɑʊdə/)

in first test.

Subjects showed 50% of errors in first test and 20% in second

test, an improvement of 30 percentage points.

See summary below under /nl/.

/nz/

E.C.4(part replacement ab→ac) occurs 70% as /ns/ (in pansy

/pɛnsɪ/) in first

test and

30% in second test.

60% is /ns/ (in spoons

/spu:ns/) in first
test and
20% in second test.
10% as /ŋs/ (in spoons
/spu:ŋs/) in first test.

Subjects showed 70% of errors in first test and 25% in second test, an improvement of 45 percentage points.

/nl/

Conversations:

E.C.9(part omission and replacement ab→c) occurs
as /l/ (in only /oʊlɪl/), twice.

Summary (/nt/, /ntʃ/, /nd/, /ndʒ/, /nθ/, /ns/, /nz/, /nl/):
/n/ is omitted 37% as in launcher and is misread as /ŋ/ 20%
in stranger. /tʃ/ is hyper-corrected to /d / 10% in launcher
and /dʒ/ becomes /tʃ/ 40% in change. /θ/ becomes /t/ 30% as
in tenth and /n/ becomes /ŋ/20% as in once.

/ŋk/

Conversations:

E.C.1(part omission ab→a) occurs as /ŋ/ (in think/tɪŋ/), twice.
E.C.9(omission and replacement ab→c) occurs as /n/ (in think
/tɪn/).

See summary below under / l/.

179

/ŋl/

Conversations:

E.C.6(added phoneme ab→acb) occurs 10% as /ŋk/ (in <u>English</u>

/eŋklɪʃ/), twice.

Subjects showed 30% of errors in first test and none in second
test, an improvement of 30 percentage points.

<u>Summary</u> (/ŋk/, /ŋl/):

/k/ is omitted in <u>think</u> and added to /ŋl/ in <u>English</u> in
conversations.

/lp/

Conversations:

E.C.1(part omission ab→b) occurs as /p/ (in <u>help</u> /hep/), twice.

E.C.4(part replacement ab→cb) occurs as /ʊp/ (in <u>help</u> /heʊp/)

seven times.

See summary below under /lf/.

/lt/

Conversations:

E.C.1(partial omission ab→c) occurs as /ʊ/ (in <u>difficult</u>

/dɪfɪkʊ/).

(ab→b) occurs as /l/ (in <u>difficult</u>

/dɪfɪkl̩/).

See summary below under /lf/.

/lf/

E.C.1(partial omission ab→a) occurs as /l/ (in myself /maɪsel/),

six times.

Summary (/lp/, /lt/, /lf/).

/l/ is omitted or replaced with /ʊ/ in help and difficult
and final /t/ and /f/ are omitted in difficult and myself
in conversations.

/ktr/

Conversations.

E.C.1(partial replacement abc→dec) occurs as /k-dr/ (in

electronics /elek-dronics/).

See summary below under /ksθ/.

/kts/

Word lists (2 examples in facts, contacts at):

E.C.1(partial omission abc→ac) occurs 70% as /ks/ (in contacts

at /kɔntɛksɛt/)

in first test and

20% in second test.

60% as /ks/ (in facts

181

/fɛks/) in first

test and

20% in second test.

(abc→a) 10% as /k/ (in contacts at

/kontrɛkat/) in

second test.

E.C.3(over-articulation) occurs 10% as /k-t-s-/ (in facts

/f k-t-s-/) in first test.

E.C.6(extra phoneme abc→adbc) occurs 10% as /ksts/ (in facts

/fɛksts/)in second test.

E.C.8(permutation abc→acb) occurs 10% as /kst/ (in contacts at)

/kontɛkstɛt/) in second

test.

E.C.11(over-articulation and omission abc→ac) occurs

10% as /kəs/ (in facts /fɛkəs/)

in first test.

Conversations:

E.C.1(partial omission abc→c) occurs as /s/ (in subjects

/sabdʒes/),

(abc→b) as /t/ (in subjects

/sabdʒet/) and

(abc→ac) as /ks/ (in subjects

/sabdʒeks/).

E.C.1(omission) occurs (in subjects /sabdʒ/).

Subjects showed 75% of errors in first test and 40% in second

test, an improvement of 35 percentage points.

See summary below under /ksθ/.

/ksθ/

E.C.1(partial omission abc→a) occurs 10% as /k/ (in sixth

/sɪk/) and

10% as /k/ (in sixth again

/sɪkagen/)in first test.

(abc→ab) 10% as /ks/ (in sixth

/sɪks/)in first test and

20% in second test.

(abc→bc) 20% as /sθ/ (in sixth

again /sɪsθagen/) and

10% as /sθ/ (in sixth

/sɪsθ/) in first test.

10% as /ks/(in sixth again)

in first test and

20% in second test.

(abc→ac) 40% as /kθ/(in sixth

/sɪkθ/) and

20% as /kθ/ (in sixth again

/sɪkθagen/) in

second test.

E.C.4(partial replacement abc→abd) occurs 10% as /kst/ (in sixth

/sɪkst/) and

10% as /kst/(in sixth

again /sɪkstagen/)

183

in second test.

E.C.9(replacement and omission abc→d) occurs

30% as /t/ (in sixth/sɪt̺/)and

20% as /t/ (in sixth again

/sɪtagen̺/)in first test.

(abc→db). 10% as /gs/ (in sixth/sɪgs̺/)

in first test.

Subjects showed 70% of errors in first test and 60% in second

test, an improvement of 10 percentage points.

Summary (/ktr/, /kts/, /ksθ/):

/k/ is omitted 40% in sixth and also in subjects, in

conversation. /t/ is omitted 65% as in facts. /s/ is omitted

50%, /k/ is omitted 10% and /θ/ is omitted 8% as in sixth.

/t/ replaces /θ/ 10% and /ksθ/ becomes /t/ 25% as in sixth.

/spt/

Word lists (2 examples in gasped, gasped and):

E.C.1(partial replacement abc→ab) occurs 20% as /sp/(in gasped

/gɛsp̺/) in first

test and

10% in second test.

20% as /sp/ (in gasped

and /gɛspɛnd̺/)

in first test and

10% in second test.

184

(abc→bc) 20% as /pt/ (in gasped

                                   and /gɛptɛnd/) in

                                   both tests.

                              20% as /pt/ (in gasped

                                   /gɛpt/) in first

                                   test and

                              10% in second test.

                          (abc→ac) 10% as /st/ (in gasped

                                   /gɛst/) in first

                                   test.

E.C.4 (partial replacement abc→adc) occurs 10% as /stt/ (in

                                   gasped /gɛstt/)

                                   in first test.

E.C.6 (extra phoneme abc→abdc) occurs 10% as /spst/ (in gasped

                                   /gɛspst/) in first test.

E.C.8 (permutation abc→bac) occurs 20% as /pst/ (in gasped and

                                   /gɛpst/) in first test.

                              10% in second test.

                              10% as /pst/ (in gasped

                                   /gɛpst/) in both tests.

E.C.11 (over-articulation and omission abc→ab) occurs

                              10% as /spə/ (in gasped and

                                   /gɛspəɛnd/) in second test.

E.C.14 (permutation and omission abc→ba) occurs

                              30% as /ps/ (in gasped /gɛps/) and

                              10% as /ps/ (in gasped and

                                   /gɛpsɛnd/) in first test.

185

E.C.15(permutation and replacement abc→bad) occurs

                                   10% as /pst/ (in gasped/gɛpst/)

                                   in both tests.

                                   10% as /psp/ (in gasped/gɛpsp/)

                                   in first test.

Subjects showed 85% of errors in first test and 45% in second test, an improvement of 40 percentage points.

See summary below under /skw/.

<center>/sps/</center>

E.C.1(partial omission abc→bc) occurs 40% as /ps/ (in lisps a /lɪpsa/)in first test and

                                   20% in second test.

                                   30% as /ps/ (in gasps /gɛps/)in first test and

                                   10% in second test.

                        (abc→ab) 10% as /sp/ (in lisps a /lɪspa/)in second test.

E.C.4(partial replacement abc→adc) occurs 10% as /sts/ (in gasps /gɛsts/) and

                                   10% as /sts/ (in lisps a/lɪstsa/) in first test.

E.C.6(extra phoneme abc→abdc) occurs 10% as /spts/ (in gasps /gɛspts/) and

<center>186</center>

(abc→dabc) 10% as /psps/ (in <u>lisps a</u>

                                /lɪpspsa/)in second test.

E.C.8(permutation abc→bab) occurs 10% as /psp/ (in <u>gasps</u>/gɛpsp/)

                                in first test.

E.C.9(omission and replacement abc→ad) occurs

                        10% as /st/ (in <u>lisps a</u>/lɪsta/)

                                in first test.

Subjects showed 55% of errors in first test and 30% in second

test, an improvement of 25 percentage points.

See summary below under /skw/.

                        /spl/

<u>Word lists</u> (2 examples in <u>splash</u>, <u>display</u>):

E.C.6(extra phoneme abc→adb) occurs 10% as /səp/ (in <u>splash</u>

                                /səplɛʃ/) in first test.

Subjects showed 5% of errors in first test and no errors in

second test, an improvement of 5 percentage points.

See summary below under /skw/.

                        /spr/

<u>Word lists</u> (<u>spread</u>, <u>aspray</u>):

E.C.4(partial replacement abc→abd) occurs 20% as /spr̃/ (in <u>spread</u>

                                /spr̃ed/) in

                                both tests.

                        10% as /spr̃/ (in <u>aspray</u>

187

/әsprẽɪ/) in

both tests.

E.C.6(extra phoneme abc→adbc) occurs 10% as /sәpr/ (in <u>spread</u>

/sәpred/)in second test.

Subjects showed errors of 15% in first test and 20% in second

test, a regression of 5 percentage points.

See summary below under /skw/.

/sts/

<u>Word lists</u> (<u>guests</u>, <u>tourists are</u>):

E.C.1(partial omission abc→a) occurs 20% as /s/ (in <u>tourists are</u>

/tvәrɪs/) both tests.

(abc→ab) 50% as /st/ (in <u>guests</u>

/gest/)in first test and

20% in second test.

30% as /st/ (in <u>tourists are</u>

/tvәrɪst/) in first

test and

20% in second test.

E.C.3(over-pronunciation) occurs 10% as /s-t-s-/ (in <u>guests</u>

/ges-t-s-/) in both tests.

Subjects showed 55% of errors in first test and 35% in second

test, an improvement of 20 percentage points. See summary below

under /skw/.

Word lists (2 examples in street, astride):

E.C.1(part omission abc→ac) occurs 10% as /sr/ (in astride

/əsrɪd/) in second test.

E.C.4(partial replacement abc→dcb) occurs 10% as /ʃtr/ (in street

/ʃtriːt/) in first

test and

10% as /ʃtr/ (in astride

/ɛʃtreɪ/)in second test.

Conversations:

E.C.4(partial replacement abc→abd) occurs as /stř/ (in Australia

/ɛstřeɪlɪa/), twice and

as /stř/ (in street

/stři:t/).

E.C.9(omission and replacement abc→ad) occurs as /stʃ/ (structure

/stʃaktɪ4/), twice and

struggle /stʃagl/).

(abc→dc) occurs as /ʃr/ (in

Australia /ĉʃreɪlɪa/)

(abc→d) occurs in Australia

/ĉtʃreɪlɪa/).

Subjects showed 10% of errors in first test and 5% of errors

in second test, an improvement of 5 percentage points.

See summary below under /skw/.

/skt/

Word lists (2 examples in whisked, frisked her):

E.C.1(partial omission abc→ac) occurs 40% as /st/ (in whisked

/wɪskt/) in first

test and

20% in second test.

40% as /st/ (in frisked her

/frɪsthɜ:/)in

first test.

(abc→ab) 10% as /sk/ (in whisked

/wɪsk/)in first test.

10% as /sk/ (in frisked her

/frɪskhɜ:/in first test.

(abc→c) 10% as /t/ (in frisked her

/frɪthɜ:/)in first test.

(abc→a) 10% as /s/ (in frisked her

/frɪshɜ:/)in first test.

E.C.3(partial over-articulation abc→abde)occurs 10% as /skdʒ/

(in whisked

/wɪskdʒ/)in

first test.

20% as /skʔt/ (in frisked

her/frɪskʔt/) in

first test and

10% in second test.

E.C.12(over-articulation and replacement abc→acc) occurs

10% as /st-t-/ (in whisked

190

/wɪst-t-/)in first test.

                    10% as /st-t-/ (in <u>frisked</u>

                    <u>her</u> /frɪst-t-hɜ:/)

                    in second test.

(abc→abd) 10% as /sk‡s/ (in <u>whisked</u>

                    /wɪsk‡s/)in first test.

Subjects showed 80% of errors in first test and 20% in second
test, an improvement of 60 percentage points.
See summary below under /skw/.

<center>/sks/</center>

<u>Word lists</u> (2 examples in <u>tasks</u>, <u>masks on</u>):

E.C.1(partial omission abc→ab) occurs 10% as /sk/ (in <u>masks on</u>

                    /ma:skɔn/) in first

                    test and

                    20% in second test.

                    10% as /sk/ (in <u>tasks</u>

                    /ta:sk/) in both tests.

        (abc→a) 20% as /s/ (in <u>masks on</u>

                    /ma:sɔn/)in first test.

E.C.3(partial over-articulation) occurs 10% as /sk-s/ (in <u>tasks</u>

                    /ta:sk-s/) in first

                    test.

                    10% as /sk-s/ (in <u>masks</u>

                    <u>on</u> /ma:sk-sɔn/) in

                    first test.

<center>191</center>

E.C.4(partial replacement abc→abd) occurs 10% as /skt/ (in

tasks/ta:skt/) in

first test.

E.C.6(extra phoneme abc→abdc) occurs 10% as /skts/ (in tasks

/ta:skts/)in first test.

E.C.9(omission and replacement abc→ad) occurs

10% as /s-t/ (in tasks

/ta:s-t/) in both tests.

10% as /st/ (in masks

on /ma:stɔn/) in

first test.

E.C.11(over-articulation and omission abc→ab) occurs

20% as /s-k-/ (in masks

on/ma:s-k-ɔn/) in

first test.

E.C.16(permutation and extra phoneme abc→badc) occurs

10% as /k-sts/ (in tasks

/ta:sk-sts/)in first test.

Subjects showed 60% of errors in first test and 20% in second

test, an improvement of 40 percentage points.

See summary below under /skw/.

/skr/

Word lists (2 examples in srew, describe):

E.C.4(partial replacement abc→abd) occurs 20% as /skr̃/ (in screw

/skr̆u:/) in first

test and

                                        10% in second test.

                                        20% as /sk̃r/ (in

                                        describe /dekr̃aɪb/)

                                        in both tests.

Subjects showed 20% of errors in first test and 15% in second
test, an improvement of 5 percentage points.
See summary below under /skw/.

                              /skw/

Word lists (squid, asquith):

E.C.1(partial omission abc→ac) occurs 10% as /sw/ (in asquith

                                        /swɪt/) in first test.

                              (abc→bc) 10% as /kw/ (in asquith

                                        /akwɪʃ/) in both tests.

E.C.6(extra phoneme abc→babc) occurs 10% as /kskw/ (in asquith

                                        /ɛskwɪθ/)in second test.

Subjects showed 20% of errors in both tests.

Summary (/spt/, /sps/, /spl/, /spr/, /sts/, /str/, /skt, /sks/,
          /skr/, /skw/):

First /s/ is omitted 30% in gasped and in gasps, and final
/s/ is omitted 50% as in quests and 20% as in tasks. Final
/t/ is omitted 60% as in gasped and is over-articulated 30%
as in frisked. /k/ is omitted 60% in frisked and 5% as in

                              193

asquith. /s/ is added 10% as in gasped and in gasps, /sp/
is reversed 20% as in gasped and /t/ and /p/ are added 10%
in gasps. S.V. /r̃/ replaces /r/ 20% as in spread and describe,
and /ʃ/ replaces /s/ 10% as in street as well as sometimes
replacing /st/ as in Australia, in conversation.

/mpt/

Word lists (2 examples in prompted, prompt):

E.C.1(partial omission abc→c) occurs 10% as /t/ (in prompted

                                        /prout͡ət/)in first test.

                        (abc→b) 10% as /m/ (in prompted

                                        /proum͡ət/)in first test.

Subjects showed 10% of errors in first test and no errors
in second test, an improvement of 10 percentage points.
See summary below under /mfs/.

/mps/

Word lists (lumps, bumps it):

E.C.1(partial omission abc→ac) occurs 10% as /ms/ (in lumps

                                        /lams/ in first

                                        test and

                                        20% in second test.

                                        20% as /ms/ (in bumps it

                                        /bams͡ət/)in second test.

                        (abc→ab) 10% as /m̥p/ (in bumps it

                                        /bampɪt/)in first test.

E.C.3(partial over-articulation) occurs 10% as /mps-/ (in lumps

/lamps-7) in first

test.

E.C.4(partial replacement abc→adc) occurs 10% as /mbs/ (in lumps

/lambs7) in

second test.

Subjects showed errors of 15% in first test and 20% in second

test, a regression of 5 percentage points.

See summary below under /mfs/.

/mft/

Word lists (triumphed, triumphed again):

E.C.1(partial omission abc→ab)occurs 20% as /mf/ (in triumphed

/traɪamf7)in first

test and

10% in second test.

30% as /mf/ (in triumphed

again /traɪamfagen7) in

first test and

20% in second test.

(abc→ac) 10% as /mt/ (in triumphed

/traɪamt7)in both tests.

(abc→a) 10% as /m/ (in triumphed

again/traɪamagen7)

in first test and

20% in second test.

E.C.4(partial replacement abc→ade) occurs

                                          10% as /mps/(in <u>triumphed</u>

                                          /traɪamps/)in both tests.

         (abc→adc) 10% as /mpt/(in <u>triumphed</u>

                                      <u>again</u>/traɪamptagen/)in

                                      both tests.

                                  10% as /mpt/(in <u>triumphed</u>

                                        /traɪampt/)in second test.

         (abc→abd) 10% as /mfɪ/(in <u>triumphed</u>

                                        /traɪamfɪ/)in first test.

                                  10% as /mfɪ/(in <u>triumphed</u>

                                      <u>again</u>/traɪamfɪagen/)

                                      in first test.

                                  10% as /mvə/(in <u>triumphed</u>

                                        /traɪamvə/)in first test.

E.C.8(permutation abc→bdac) occurs 10% as /fəmt/(in <u>triumphed</u>

                                        <u>again</u>/traɪafəmtagen/) in

                                      second test.

E.C.15(permutation and replacement abc→bda) occurs

                                10% as /fəm/(in <u>triumphed</u>

                                        /traɪafəm/)in second test.

Subjects showed 65% of errors in first test and 50% in second
test, an improvement of 15 percentage points.
See summary below under /mfs/.

/mfs/

<u>Word lists</u> (<u>triumphs</u>, <u>triumphs again</u>):

E.C.1(partial omission abc→ab) occurs 10% as /mf/(in <u>triumphs</u> /traɪamf/)in first test.

(abc→ac) 10% as /ms/(in <u>triumphs</u> /traɪams/) in second test.

10% as /ms/ (in <u>triumphs again</u> /traɪamsagen/) in first test.

(abc→a) 10% as /m/ (in <u>triumphs again</u>/traɪamagen/) in both tests.

E.C.4(partial replacement abc→adc) occurs

40% as /mps/ (in <u>triumphs</u> /traɪamps/) in first test and

10% in second test.

40% as /mps/ (in <u>triumphs again</u> /traɪampsagen/) in first test and

10% in second test.

E.C.6(added phoneme abc→abcd) occurs 10% as /mfst/ (in <u>triumphs</u> /traɪamfst/) in first test.

10% as /mfst/ (in <u>triumphs again</u> /traɪamfstagen/)

197

in second test.

E.C.8(permutation abc➔bdac) occurs 10% as /fɪms/ (in <u>triumphs</u>
∫traɪafᵊms∫)in second test.

E.C.15(permutation and replacement abc➔adece) occurs
10% as /mptst/(in <u>triumphs</u>
<u>again</u>∫traɪamptstagen∫)
in second test.

Subjects showed 55% of errors in first test and 40% in second
test, an improvement of 15 percentage points.

<u>Summary</u> (/mpt/, /mps/, /mft/, /mfs/):
/m/ is omitted 10% in <u>prompted</u> and /p/ is omitted 15% as in
<u>prompted</u> and <u>lumps</u>. Final /s/ is omitted 5% as in <u>triumphs</u>
and <u>lumps</u>, and final /t/ becomes /ɪ/ in <u>triumphed</u> and <u>prompted</u>
10%. /f/ is omitted 15% and becomes /p/ 45% as in <u>triumphs</u>
and <u>triumphed</u>.

/nst/

<u>Word lists</u> (2 examples in <u>minced</u>, <u>convinced us</u>).
E.C.1(partial omission abc➔ab) occurs 10% as /ns/ (in <u>minced</u>
∫mins∫) in first test.
20% as /ns/ (in <u>convinced</u>
<u>us</u> ∫kɔnvɪnsas∫) in
first test and
10% in second test.
(abc➔ac) 10% as /nt/ (in <u>minced</u>

198

/mint/) in second test.

E.C.7(mis-reading abc→abdc) occurs 10% as /nsƏt/ (in <u>convinced us</u>

/kɔnvɪnsƏtat/) in

first test.

E.C.9(replacement and omission abc→db) occurs 10% as /ɪs/ (in

<u>minced</u> /maɪs/)

in first test.

E.C.11(over-articulation and omission abc→abd) occurs

10% as /nsƏ/ (in <u>minced</u>

/mɪnsƏ/)in second test.

E.C.13(partial replacement and added phoneme abc→abde) occurs

10% as /nsdn/ (in <u>minced</u>

/mɪnsdn/)in first test.

10% as /nsez/ (in <u>minced</u>

/mɪnsez/)in first test.

Subjects showed 35% of errors in first test and 20% in second
test, an improvement of 15 percentage points.

See summary below under /nθs/.

/ntw/

<u>Word lists</u> (1 example in <u>entwine</u>):

E.C.4(partial replacement abc→abd) occurs 10% as /ntr/ (<u>entwine</u>

/entraɪ/) in

first test.

(abc→adc) 10% as/ntʃw/(in <u>entwine</u>

/entʃwaɪn/) in

199

both tests.

E.C.9(omission and replacement abc→ad)occurs 10% as /tɔ/(in

entwine/etɔɪŋ/)

in first test.

Subjects showed 30% of errors in first test and 10% in second
test, an improvement of 20 percentage points.
See summary below under /nθs/.

$$/ntʃt/$$

Word lists (2 examples in punched and crunched it):

E.C.1(partial omission abc→ab) occurs 40% as /ntʃ/ (in punched

/pantʃ/) in first

test and

20% in second test.

20% as /ntʃ/ (in crunched

it /krantʃɪt/) in

first test and

10% in second test.

(abc→ac) 10% as /nt/ (in punched

/pant/) in first test.

10% as /nt/ (in crunched

it /krantɪt/) in

first test and

20% in second test.

E.C.3(over-articulation abc→abde)occurs 10% as /ntʃəd/(in

crunched it

/krant∫ʒdɪt/) in
second test.

E.C.4(partial omission abc→abd) occurs 20% as /nt∫ʒ/ (in <u>punched</u>
/pant∫ʒ/ in first
test and
10% in second test.

(abc→adc) 10% as /nst/ (in <u>punched</u>
/panst/)in second test.

10% as /mpt/ (in <u>punched</u>
/pampt/) in second
test.

(abc→abd) 10% as /nt∫ʒ/ (in <u>crunched</u>
<u>it</u> /krant∫ʒɪt/)
in both tests.

Subjects showed 60% of errors in first test and 45% of errors
in second test, an improvement of 15 percentage points.
See summary below under /nθs/.

/ngl/

<u>Word lists</u> (1 example in <u>englaze</u>):

E.C.1(partial omission abc→ac) occurs 10% as /nl/ (in <u>englaze</u>
/enla:∫/)in first test.

E.C.4(partial replacement abc→adc) occurs 20% as /nkl/ (in
<u>englaze</u> /enkleɪz/)
in first test and
10% in second test.

Subjects showed 30% of errors in first test and 10% in second
test, an improvement of 20 percentage points.

See summary below under /nθs/.

/nkl/

Word lists (1 example in enclose):

E.C.4(partial replacement abc→adc) occurs

20% as /ngl/ (in enclose
/englovs/) in both tests.

10% as /nɣl/ (in enclose
/enɣlovs/) in first test.

E.C.3(partial over-pronunciation) occurs

10% as /nk-l/ (in enclose
/enkl-ovs/)in first test.

Subjects showed 40% of errors in first test and 20% in second
test, an improvement of 20 percentage points.

See summary below under /nθs/.

/ntl/

Conversations:

E.C.1(partial replacement abc→bc) occurs as /tl/ (in fluently
/flu:etli:/).

See summary below under /nθs/.

/ndʒd/

<u>Word lists</u> (2 examples in <u>lunged</u>, <u>lunged at</u>):

E.C.1(partial omission abc→ab) occurs 10% as /ndʒ/ (in <u>lunged</u>

ʃlandʒʃ) in first test.

10% as /ndʒ/ (in <u>lunged</u>

<u>at</u> ʃlandʒɛtʃ) in

both tests.

E.C.4(partial replacement abc→adc) occurs 10% as /ntʃt/(in <u>lunged</u>

ʃlantʃtʃ) in first

test and

30% in second test.

30% as /ntʃt/(in <u>lunged</u>

<u>at</u> ʃlantʃtɛtʃ) in

first test and

10% in second test.

(abc→dec) 10% as /ŋst/ (in

<u>lunged</u> ʃlaŋstʃ)

in second test.

E.C.7(mis-reading abc→dc) occurs 20% as /ŋt/ (in <u>lunged</u> ʃlaŋtʃ)

in first test and

10% in second test.

20% as /ŋt/ (in <u>lunged at</u>

ʃlaŋtɛtʃ) in both tests.

(abc→defc) 10% as /ŋgəd/ (in <u>lunged at</u>

ʃlaŋgədɛtʃ) in first test.

E.C.9(omission and replacement abc→ad) occurs

30% as /ntʃ/ (in <u>lunged</u> ʃlantʃʃ)

in first test and

20% in second test.

20% as /ntʃ/ (in <u>lunged at</u>

/lantʃɛt/) in both tests.

10% as /nt/ (in <u>lunged</u> /lant/)

in first test.

10% as /nt/ (in <u>lunged at</u>

/lantɛt/) in first test.

(abc→de) 10% as /ŋtʃ/ (in <u>lunged at</u>

/laŋtʃɛt/) in first test.

E.C.17(misreading and replacement abc→dge) occurs

10% as /ŋga/ (in <u>lunged</u>

/laŋga/)in both tests.

(abc→de) 10% as /ŋk/ (in <u>lunged</u>

/laŋk/) in first test.

10% as /ŋk/ (in <u>lunged at</u>

/laŋkɛt/) in second

test.

Subjects showed 95% of errors in first test and 90% in second

test, an improvement of 5 percentage points.

See summary below under /nθs/.

/nθs/

<u>Word lists</u> (2 examples in <u>months, months ago</u>):

E.C.1(partial omission abc→ac) occurs 40% as /ns/ (in <u>months</u>

/mans/)in both tests.

204

50% as /ns/ (in <u>months ago</u>

/mansagoʊ/)in first

test and

20% in second test.

(abc→ab) 10% as /nð̱/ (in <u>months</u>

/manð̱/) in both tests.

10% as /nθ̱/ (in <u>months ago</u>

/manθ̱agoʊ/) in first

test.

(abc→ac)10% as /nʃ/(in <u>months</u>

/manʃ/) in first test.

E.C.3(over-articulation abc→abdc)occurs 10% as /nθ̱ʒs/(in <u>months</u>

/manθ̱ʒs/)in first test.

E.C.6(added phoneme abc→abbc) occurs 10% as /nθθs/ (in <u>months</u>

/manθθs/)in second test.

E.C.8(permutation abc→acbc) occurs 10% as /nsθs/ (in <u>months</u>

/mansθs/) in first test.

E.C.9(omission and replacement abc→ad) occurs

10% as /nz/ (in <u>months ago</u>

/manzagoʊ/)in first test.

Subjects showed 80% of errors in first test and 60% in second test, an improvement of 20 percentage points.

<u>Summary</u>(/nst/, /ntw/, /ntʃt/, /ngl/, /nkl/, /ntl/, /ndʒd/, nθs/):
/n/ is omitted 10% in <u>entwine</u> and in <u>fluently</u>, in conversation.
/n/ is omitted 10% in <u>minced</u> and final /t/ is omitted 30%

and replaced with /ə/ 15% as in crunched. Final /d/ is omitted 40% as in lunged, and final /s/ is omitted 15% as in months. /g/ is omitted 30% in englaze, and /θ/ is omitted 55% as in months. /ndʒ/ is misread as /ŋ/ 40% and becomes /ntʃ/ 55%, as in lunged. /k/ becomes /g/ 20% in enclose.

/ŋkt/

Word lists (banked, thanked us):

E.C.1(partial omission abc→ab) occurs 20% as /ŋk/ (in banked /bɛŋk/) in first test and
10% in second test.

E.C.3(over-articulation abc→abdc)occurs 10% as /ŋkət/(in banked /bɛŋkət/)in first test.

E.C.4(partial replacement abc→abd) occurs 10% as /ŋks/(in banked /bɛŋks/) in second test.
30% as /ŋks/(in thanked us/θɛŋksas/)in first test and
40% in second test.

E.C.9(replacement and omission abc→dc) occurs
10% as /nt/ (in banked /bɛnt/) in first test.
10% as /nt/ (in thanked us /tɛntas/) in

206

first test.

Subjects showed 40% of errors in first test and 25% in second test, an improvement of 15 percentage points.
See summary below under /ŋkl/.

/ŋks/

<u>Word lists</u> (2 examples in <u>sinks</u>, <u>sinks in</u>):

E.C.1(partial omission abc→ac) occurs 10% as /ŋs/ (in <u>sinks</u> /sɪŋs/) in both tests.

10% as /ŋs/ (in <u>sinks in</u> /sɪŋsɪn/) in first test.

Subjects showed 10% of errors in first test and 5% in second test, an improvement of 5 percentage points.

<u>Summary</u> (/ŋkt/, /ŋks/):
/ŋ/ becomes /n/ 10%, final /d/ becomes /t/ 20% and is omitted 10% as in <u>banked</u>. /k/ is omitted 10% as in <u>sinks</u>.

/lpt/

E.C.1(partial omission abc→bc) occurs 20% as /pt/ (in <u>helped</u> /hept/)in first test and 30% in second test.

20% as /pt/ (in <u>helped us</u>
/heptas/)in both tests.

E.C.4(partial replacement abc→dbc) occurs 40% as /ʊpt/ (in <u>helped</u>
/heʊpt/) in both
tests.

30% as /ʊpt/ (in <u>helped</u>
<u>us</u> /heʊptas/) in
first test and

40% in second test.

10% as /mpt/ (in <u>helped</u>
/hempt/) in first
test.

(abc→dec) 10% as /ʊft/ (in <u>helped</u>
<u>us</u> /heʊftas/) in
both tests.

E.C.9(partial replacement and omission abc→dc) occurs

10% as /ft/ (in <u>helped</u>
/heft/) in first
test.

10% as /mt/ (in <u>helped</u>
<u>us</u> /hemtas/) in
first test.

(abc→db) 10% as /ʊp/ (in <u>helped</u>
/heʊp/) in first
test.

10% as /ʊp/ (in <u>helped</u>

208

us /heʊptas/)

in first test.

10% as /vp/ (in <u>helped</u>

/hevp/) in second

test.

E.C.12(replacement and over-articulation abc→dbdc) occurs

10% as /ɘpɘt/ (in <u>helped</u>

<u>us</u> /heɘpɘtas/) in

both tests.

Subjects showed 90% of errors in first test and 80% in second

test, an improvement of 10 percentage points.

See summary below under /lmz/.

/lps/

<u>Word lists</u> (2 examples in <u>helps</u>, <u>helps us</u>):

E.C.1(partial omission abc→bc) occurs 10% as /ps/ (in <u>helps</u>

/heps/) in both tests.

20% as /ps/ (in <u>helps us</u>

/helpsas/) in first

test and

10% in second test.

E.C.4(partial replacement abc→dbc) occurs

60% as /ʊps/ (in <u>helps</u>

/heʊps/)in first

test and

50% in second test.

60% as /ʊps/ (in <u>helps us</u>

/heʊpsas/) in first

test and

40% in second test.

E.C.9(partial replacement and omission abc→db) occurs

10% as /ʊp/ (in <u>helps us</u>

/heʊpas/)in both tests.

E.C.11(omission and over-articulation abc→bdc) occurs

10% as /pəs/ (in <u>helps</u>

/hepəs/) in both tests.

10% as /pas/ (in <u>helps us</u>

/hepas/)in second test.

Subjects showed 90% of errors in first test and 70% in second
test, an improvement of 20 percentage points.

See summary below under /lmz/.

/lts/

<u>Word lists</u> (2 examples in <u>cults</u>, <u>results are</u>):

E.C.1(partial omission abc→c) occurs 10% as /s/ (in <u>cults</u> /kas/)

in first test.

(abc→ab) 10% as /lt/ (in <u>cults</u>

/kalt/) in second test.

(abc→ac) 10% as /ls/ (in <u>results are</u>

/rɪsalsa:/) in both

tests.

E.C.4(partial replacement abc→dbc) occurs

         20% as /ʊts/ (in <u>cults</u>

         /ˌkaʊts/) in both tests.

         10% as /ʊts/ (in <u>results are</u>

         /rɪsaʊtsa:/) in both

         tests.

         30% as /nts/ (in <u>cults</u>

         /ˌkants/) in first

         test and

         20% in second test.

         10% as /nts/ (in <u>results are</u>

         in first test.

E.C.6(added phoneme abc→adbc) occurs 10% as /lʔts/ (in <u>cults</u>

         /ˌkalʔts/)in second test.

E.C.9(replacement and omission abc→db) occurs

         10% as /ɔt/ (in <u>cults</u>/ˌkaɔt/)

         in first test.

    (abc→dc) 20% as /ɔs/ (in <u>cults</u>/ˌkaɔs/)

         in first test and

         10% in second test.

         40% as /ɔs/ (in <u>results are</u>

         /rɪsaɔsa:/)in first

         test and

         30% in second test.

         10% as /rs/ (in <u>results are</u>

         /rɪsarsa:/)in first test.

    (abc→de) 10% as /ʊ/ (in <u>results</u>

$[$rɪzaʊ$]$)in both tests.

Subjects showed 90% of errors in first test and 65% in second
test, an improvement of 25 percentage points.
See summary below under /lmz/.

/lkt/

Word lists (2 examples in sulked, sulked in):

E.C.1(partial omission abc→bc) occurs 40% as /kt/ (in sulked

$[$sakt$]$)in first

test and

10% in second test.

20% as /kt/ (in sulked in

$[$saktɪn$]$)in first test.

(abc→b) 10% as /k/ (in sulked in

$[$sakɪn$]$)in first test.

(abc→ab) 10% as /lk/ (in sulked

$[$salk$]$)in second test.

E.C.4(partial replacement abc→dbe) occurs

10% as /ʊks/ (in sulked

$[$saʊks$]$) in first test.

E.C.9(omission and replacement abc→bd) occurs

10% as /ks/ (in sulked

$[$sɔks$]$) in both tests.

10% as /ks/ (in sulked in

$[$sɔksɪn$]$)in both tests.

(abc→dc) 10% as /nt/ (in sulked

212

/sant/) in first test.

                    (abc→db) 10% as /ʊk/ (in <u>sulked</u>

                                  /saʊk/) in both tests.

                             10% as /ʊk/ (in <u>sulked in</u>

                                  /saʊkɪn/)in first test.

E.C.12(replacement and over-articulation abc→dcc) occurs

                             10% as /ʊt-t/ (in <u>sulked in</u>

                                  /saʊt-tɪn/) in

                                  first test.

                    (abc→dce) 10% as /ntɚ/ (in <u>sulks in</u>

                                  /santɚɪn/)in first test.

                    (abc→dbe) 10% as /ʊkɚ/ (in <u>sulks in</u>

                                  /saʊkɚɪn/)in both tests.

                    (abc→acde) 10% as /ltɚd/ (in <u>sulked</u>

                                  <u>in</u> /saltɚdɪn/) in

                                  second test.

Subjects showed 80% of errors in first test and 35% in second

test, an improvement of 45 percentage points.

See summary below under /lmz/.

                                  /lks/

E.C.1(partial omission abc→bc) occurs 30% as /ks/ (in <u>sulks</u>

                                  /saks/) in first

                                  test and

                             10% in second test.

                             20% as /ks/ (in <u>sulks in</u>

/sɪksɪn/)in both tests.

              (abc→ac) 10% as /ls/ (in <u>sulks</u>

                              /sals/)in first test.

                      10% as /ls/ (in <u>sulks in</u>

                              /salsɪn/)in both tests.

              (abc→ab) 10% as /lk/ (in <u>sulks</u>

                              /salk/)in second test.

               (abc→c) 10% as /s/ (in <u>sulks</u>

                              /sas/) in first test.

                      10% as /s/ (in <u>sulks in</u>

                              /sasɪn/)in first test.

               (abc→b) 10% as /k/ (in <u>sulks in</u>

                              /sakɪn/)in first test.

E.C.4(partial replacement abc→dbc)occurs 20% as /ʊks/(in sulks

                              /saʊks/)in first

                              test and

                      10% in second test.

                      10% as /ʊks/(in <u>sulks in</u>

                              /saʊksɪn/)in first

                              test.

                      10% as /ŋks/(in <u>sulks</u>

                        /saŋks/)insecond test.

                      10% as /ŋks/(in <u>sulks in</u>

                              /saŋksɪn/) in first

                              test and

                      20% in second test.

              (abc→dec) 10% as /nts/(in <u>sulks</u>

/ants/) in first test.

E.C.9(replacement and omission abc→dc) occurs

                                    10% as /ɔs/ (in <u>sulks</u>

                                       /saɔs/)in first test.

                                    10% as /ɔs/ (in <u>sulks in</u>

                                       /saɔsɪn/)in first test.

                      (abc → db) 10% a /ʊk/ (in <u>sulks in</u>

                                       /saʊkɪn/)in first test.

Subjects showed 90% of errors in first test and 50% in second

test, an improvement of 40 percentage points.

See summary below under /lmz/.

                            /lθs/

<u>Word lists</u> (2 examples in <u>healths</u>, <u>health sign</u>):

E.C.1(partial omission abc→ab) occurs 20% as /lθ/ (in <u>healths</u>

                                       /helθ/)in first test.

                      (abc→bc) 10% as /θs/ (in <u>health sign</u>

                                       /heθsaɪn/)in first test.

E.C.4(partial replacement abc→dbc) occurs

                                    30% as /ʊθs/ (in <u>health</u>

                                       <u>sign</u> /heʊθsaɪ/) in

                                       first test.

                      (abc→adc) 10% as /lðs/ (in <u>healths</u>

                                       /helðs/)in first test.

                      (abc→dbc) 10% as /nθs/ (in <u>health</u>

                                       <u>sign</u> /henθsaɪn/) in

second test.

E.C.7(mis-reading abc→adec) occurs 10% as /lð?s/ (in <u>healths</u>

/helð?s/)in second test.

E.C.9(replacement and omission abc→db) occurs

20% as /ʊθ/ (in <u>healths</u>

/heʊθ/) in first test.

10% as /nθ/ (in <u>healths</u>

/henθ/) in first test.

(abc→dc) 10% as /ʊs/ (in <u>healths</u>

/heʊs/) in first test.

10% as /ws/ (in <u>healths</u>

/hɛ₂ws/) in first test.

10% as /ws/ (in <u>healths</u>

/hɛ₂ws/) in first test.

(abc→ad) 10% as /lt/ (in <u>healths</u>

/helt/) in first test.

Subjects showed 65% of errors in first test and 20% in second
test, an improvement of 45 percentage points.
See summary below under /lmz/.

/lst/

<u>Word lists</u> (2 examples in <u>whilst</u> and <u>will stay</u>):
E.C.1(omission) occurs 10% (in <u>whilst</u> /waɪ/) in second test.
E.C.1(partial omission abc→bc) occurs 30% as /st/ (in <u>whilst</u>

/wɪst/)in first test and

10% in second test.

216

10% as /st/ (in <u>will stay</u>

                              /wɪsteɪ/)in both tests.

E.C.4(partial replacement abc→dbc) occurs

                              60% as /ʊst/ (in <u>will stay</u>

                              /wɪʊsteɪ/)in first test

                              and

                              30% in second test.

                              30% as /ʊst/ (in <u>whilst</u>

                              /wɪʊst/) in first

                              test and

                              10% in second test.

                              10% as /ʒst/ (in <u>whilst</u>

                              /waɪʒst/)in second test.

                              10% as /nst/ (in <u>whilst</u>

                              /wɪnst/) in first test.

Subjects showed 70% of errors in first test and 45% in second

test, an improvement of 25 percentage points.

See summary below under /lmz/.

                              /lmd/

<u>Word lists</u> (2 examples in <u>filmed</u>, <u>filmed it</u>):

E.C.1(partial omission abc→b) occurs 30% as /m/ (in <u>filmed</u>

                              /fɪm/) in first test.

                              10% as /m/ (in <u>filmed it</u>

                              /fɪmɪt/) in first test.

                  (abc→bc) 10% as /md/ (in <u>filmed</u>

                              217

/fimd/) in second test.

E.C.4(partial replacement abc→dbe) occurs 30% as /ə mt/ (in <u>filmed</u>

/fɪə mt/) in both

tests.

30% as /ə mt/ (in <u>filmed</u>

<u>it</u> /fɪə mtɪt/) in

first test and

10% in second test.

E.C.9(omission and replacement abc→bd) occurs

50% as /mt/ (in <u>filmed</u>

/fɪmt/)in first test and

30% in second test.

40% as /mt/ (in <u>filmed it</u>

/fɪmtɪt/) in first

test and

30% in second test.

(abc→db) 10% as /əm/ (in <u>filmed</u>

/fɪəm/) in first test.

(abc→bd) 10% as /mf/ (in <u>filmed</u>

<u>it</u> /fɪmfɪt/) in both

tests.

Subjects showed 100% of errors in first test and 60% in second
test, an improvement of 40 percentage points.
See summary below under /lmz/.

/lmz/

Word lists (2 examples in films, films again).

E.C.1(partial omission abc→bd) occurs 50% as /ms/ (in films

/fɪms/)in first test and

40% in second test.

50% as /ms/ (in films again

/fɪmsagen/) in first

test and

40% in second test.

(abc→b) 10% as /m/ (in films again

/fimagen/)in first test.

E.C.4(partial replacement abc→dbc) occurs 20% as /ɘms/ (in films

/fɪɘms/) in

first test and

30% in second test.

20% as /ɘms/ (in films

/fɪɘms/) in both

tests.

Subjects showed 70% of errors in both tests.

Summary(/lpt/, /lps/, /lts/, /lkt/, /lks/, /lθs/, /lst/, /lmd/, /lmz):
/l/ is omitted 40% and becomes /ʊ/ or /ɘ/ 50%. It becomes /n/
30% as in cults and 15% as in helped and sulked. /l/ also
becomes /ŋ/ 10% in sulks, /v/ 10% in helped, /r/ 10% as in
results and /w/ 5% as in healths. /l/ is over-pronounced 10%
in cults. Final /s/ is omitted 30% as in healths, 25% in sulks,

5% as in _helps_ and 5% in final /z/ as in _films_. Final /t/
is omitted 30% as in _filmed_ and 10% as in _sulked_. Also, final
/t/ becomes /s/ 10% as in _sulked_ and is over-pronounced 5%
in _helped_. /p/ is omitted 10% and becomes /f/ 10% in _helped_.

CHAPTER 6

SUMMARY OF ENGLISH PRONOUNCED BY SOUTH VIETNAMESE.

6.0 <u>Introduction</u>

In summarising the phonemes pronounced by South Vietnamese
speaking English, I have endeavored to explain the causes
of the errors made. Errors resulting from first language
interference can be considered from the viewpoint 'postulated
correspondences' mentioned in chapter 4, as it is of some
interest to find the extent of the accuracy of the predictions
made. The detailed analysis of these phonemes is contained
in chapter 5, so this section may appear to be somewhat
repetitive. However, it has been written in order to enable
greater ease of reading, and chapter 5 can be used for a more
detailed reference when required.

Results of the first and second tests, recorded before and
after the ten pronunciation lessons, plus a third identical
test recorded six months later (with no further pronunciation
lessons), are included. There are also some explanations as
to the possible reasons for the different results in the
improvement of each sound.

6.1 Vowels

/i:/

Most of the errors occur in medial position where /i:/ is shortened to /i/ (as in beat /bit/) 40-50%. This is due to first language interference as S.V. vowels are shortened when followed by a consonant (see p.46). Refer to predictions (p.47).

This phoneme showed significant and continuing improvements.

Errors in first test were 23%.
Errors in second test were 14%, an improvement of 39%.
Errors in third test were 9%, an improvement of 61%.

/ɪ/

There are very few errors in this phoneme which is very close to S.V. /i/. /ɪ/ was omitted (as in physical /fɪzkəl/) 1-5% in medial position in words of three syllables. It is lengthened once in conversation as /i:/ (in system /si:stem/), which is due to misunderstood orthography, as y is pronounced as /i:/ in S.V. (see p.47).

Errors in first test were only 1%.
There were no errors in second or third tests, an improvement of 100%.

/e/

There are relatively few errors in this phoneme where /e/

is omitted 1-5% (as in economics /kɔnɔmɪs/) in conversation.
In initial position it is misread medially as /ɪ/ (in
eleven /elɪven/) and replaced with /ɛ/ (in bet /bɛt/) 15%.

There is a regression in the second test which is due to the
misreading of bet as /bɪt/. However, there was an improvement
in the third test.
Errors in first test were 4%.
Errors in second test regressed to 7%, a regression of 75%.
Errors in third test were 3%, an improvement of 25%.

/ɛ/

There are very few errors in this phoneme which is very close
to the S.V. /ɛ/ (see p.50). It is replaced 1-5% with /ʌ/ (in
factors /fʌktɔ:s/) and /æ/ (in can /kæn/) in medial position.
Both of these errors are due to interference of the S.V. 'bound'
vowels. There is a random initial replacement of /e/ (in accents
/egsens/).

Errors in first test were 2%.
Errors in second test were 1%, an improvement of 50%.
There were no errors in third test, an improvement of 100%.

/a:/

This phoneme is very close to S.V. /a/ so there is no
interference (see p.50). There were no errors in conversations.

There were no errors in tests.

<div align="center">/a/</div>

There are random errors only in conversations, mainly in the
first interview. These are /ɜ:/ (in study /stɜ:dɪ/), /e/ (in
just /dʒest/), emulations of broad A.E. /ɑ/ (in sometimes
/sɑmta:ms/) is caused by not stressing the first syllable
and /a:/ (in once /wa:ns/) is due to S.V. interference of
the longer /a/ phoneme (see p.50). /ʊ/ (in subjects /sʊptʃet/)
and /ɔ/ (in tongue) are caused by misunderstood orthography.

There were no errors in tests.

<div align="center">/ɑ/</div>

There are very few errors in this phoneme as there is a similar
sound /ɐ/ in S.V. (see p.50). Errors are mainly due to random
misreadings such as /eɪ/ (in apart /eɪpa:t/) and
over-articulations (as in bathes /beɪðɑz/ and five /faɪvɑ/).
There are random omissions (as in address /dre/ and confident
/kɔnfdɑn/) and replacement with /ɪ/ (in express /ɪkspre/)
in conversations.

Errors in first test were 5%.
Errors in second test were 3%, an improvement of 40%.
There were no errors in third test, an improvement of 100%.

<div align="center">224</div>

/ɜ:/

Although this sound was predicted to be shortened to its nearest
S.V. equivalent, it has very few errors (see p.50) and there
are only random errors in both interviews.. These include
an omission in a three syllable word (difference /dɪfensɪeɪ/)
and finally (in after /ɑ:ft/). The other errors occur when
the vowel is shortened due to S.V. interference as /ɔ/ (in
work /wɔk/) and /e̯/ (in working /we̯kiŋ/).

There were no errors in tests.

/ɔ/

This phoneme is close to S.V. /ɔ/ and is not difficult to
pronounce (see p.50). There are random errors in first interview
including /ɟ/ (in electronics /elek⁻dənɪɟ/) which is due to
stressing the second syllable. It is also an extra phoneme
(in first as /fɔə̯s/).

There were no errors in tests.

/ɔ:/

The closest S.V. equivalent to /ɔ:/ is /ɔ/ (see p.51). The
replacements in this phoneme are due to S.V. interference
as predicted, and /ɔ:/ is shortened to /ɔ/ (as in port /pɔt/).
In conversations, there is one replacement of /ɔ/ (in order
/ɔdə̯/).

Errors in first test were 6%.

Errors in second test were 3%, an improvement of 50%.

Errors in third test were 2%, an improvement of 67%.

/ʊ/

As /ʊ/ is close to S.V. /u/ (see p.51), there is no apparent interference. It was replaced in reading tests with /ɔ/ (in handful /hɛntfɔʊ/). There were no errors in conversations. All errors were made by one subject only.

Errors in all tests were 5%, showing no improvement.

/u:/

This sound has some difficulties in tests where all errors are due to a shortening of /u:/ to /ʊ/ (as in boot /bʊt/). This is due to interference of S.V. vowels which are shortened when followed by a consonant (see p.51). The same error also occurs in conversation (in Droop /drʊp/) in the first interview only.

Errors in first test were 15%.

Errors in second and third tests were 5%, an improvement of 67%.

6.2 Diphthongs

/aɪ/

This diphthong is not difficult for S.V. to pronounce. In tests it is shortened as in S.V. vowels followed by a consonant, to allophones of /a/ (as in time /ta₃m/) (see p.51). It has random replacements in conversations of /ɔɪ/ (in fine /fɔɪn/), which is an emulation of broad A.E. and /ɪ/ (in prime /prɪm/), which is a misreading.

Errors in first test were 1%.
Errors in second test were 2%, a regression of 50%.
Errors in third test were 1%, showing no improvement.

/eɪ/

This diphthong has no correspondence in S.V. and has many replacements, especially in medial position where it has 50% of errors in tests (see p.52). It is most often shortened to /ɛ/ (as in make /mɛk/). However, there are other replacements such as shortened /ɘ/ (in take /tɘk/), /a/ (in aquainted /akwantɘd/). When /eɪ/ is not followed by a consonant, it is approximated with S.V. diphthongs /aj/, /ɛɘ/ and /ej/ (as in may /maj/, /mɛɘ/ and /mej/). This diphthong showed significant and continued improvement.

Errors in first test were 21%.
Errors in second test were 12%, an improvement of 43%.
Errors in third test were 3%, an improvement of 86%.

227

/ɔɪ/

This diphthong is not difficult for S.V. speakers as it corresponds with the S.V. diphthong /ɔj/ (see p.52). There were no errors in conversations.

There were no errors in tests.

/aʊ/

This diphthong is not difficult for S.V. speakers and is relatively easily corrected (see p.52). It has odd replacements of /ɔ:/, /ɔ/, /ɔ⁺/ and /oʊ/ (in <u>bough</u> /bɔ:/, /bɔ/, /bɔ⁺/ and /boʊ/) which I see as reading errors. There is also an odd replacement of /a:/ (in <u>now</u> /na:/) in conversations.

Errors in first test were 10%.
Errors in second test were 9%, an improvement of 10%.
Errors in third test were 4%, an improvement of 60%.

/oʊ/

This diphthong does not correspond to S.V. (see p.52). It is shortened to /ɔ/ (as in <u>only</u> /ɔnli:/) 10% in first test, which I see as a reading error. It is also replaced with /aʊ/ (in <u>although</u> /ɔlðaʊ/) which I see as an emulation of broad A.E. which, however, does not sound appropriate for an educated speaker. The same replacements, plus shortened S.V. /ɛ/ (in <u>hope</u> /hɛp/), occur in conversations. This diphthong is not difficult to correct with instruction.

228

Errors in first test were 15%.

Errors in second test were 1%, an improvement of 93%.

There were no errors in third test, an improvement of 100%.

/Iə/

This diphthong is not difficult for S.V. speakers to pronounce
as it corresponds with S.V. diphthong /Iə/ (see p.52), which
can also be followed by a consonant (see p.52). There were
only a few shortened replacements in conversations such as
/ə/ (in Australian /ɔːʃralən/) and /I/ (in deal /dɪl/).

There were no errors in tests.

/Eə/

This diphthong corresponds with S.V. so is not difficult to
pronounce (see p.52). There were no replacements in
conversations.

There were no errors in tests.

/Uə/

This diphthong corresponds with S.V., so is not difficult
to pronounce (see p.53). There were no errors in conversations.

There were no errors in tests.

6.3 Consonants

/p/

There are very few errors in this phoneme, and most of these are replacements initially with the S.V. phone, /b/ (as in prove /bru:v/) as predicted (see p.54) because /b/ occurs initially in S.V. whereas /p/ occurs finally. It is also replaced with /b/ medially (as in apple /ɛbɔ:/) and as a hyper-correction (in cap /kɛb/). Other random replacements are /t/ (in gasps /ga:sts/) and /f/ (in optics /ɔftɪs/). The only error occurring in conversation was /b/ (in people /bɪbɔ:/). There are occasional permutations in clusters (as in gasped /gepst/).

Errors in first test were 7%.

These occurred 9% initially, 6% medially and 5% finally.
Errors in second test were 1%, an improvement of 80%.

These occurred 2% initially and 11% medially.
There were no errors in third test, an improvement of 100%.

/b/

All replacements in this sound are /p/, occurring in all positions, but more so medially and finally as predicted (see p.54). There are random errors in clusters, as an extra phoneme (in lisps as /blɪps/) and as a permutation (in absolve as /ba:sɪ/). It is sometimes omitted in conversations (as in number /namə/) and replaced with the S.V. allophone /p/ which occurs in final position (as in job /tʃɔp/).

Errors in first test were 12%.

These occurred 1% initially, 16% medially and 20% finally.

Errors in second test were 4%, an improvement of 67%.

These occurred 2% initially and 11% medially.

Errors in third test were 4%, an improvement of 67%.

These occurred 1% initially, 7% medially and 3% finally.

/t/

This sound is not difficult to pronounce initially, but is

over-articulated 6% as /d/ (as in tab /dɛb/). This is a kind

of hyper-correction as an unaspirated /t/ is pronounced initially

in S.V. (see p.54). However, this phoneme is more difficult

to pronounce in other positions, where it has several

difficulties. It is replaced 4% medially with /d/ (as in better

/bedʒ/) and 1% finally (as in it /ɪd/). In clusters, there

are 5% omissions medially (as in facts /fɛks/) and 11% finally

(as in minced /mɪns/). It is replaced with /s/ and /ʔz/ (as

in sulked /saks/ and minced /mɪnsʔz/) which are due to confusion

with English verb endings. There are 5% of extra phonemes

medially, some of which may also be seen as misreadings (as

in fizz /fɪtz/) and 1% finally (as in helps /hepsʔt/). There

are also 1% of over-articulations in clusters, especially

finally (as in marked /ma:kᵗ/) and occasional permutations

in clusters (as in patsy /pɛstɪ/). In conversations, there

are 5-10% omissions medially and 20-30% finally. There are

5-10% replacements with voiced /d/ medially and finally, and

/s/ finally. There are occasional retracted articulations

231

of /k/ (as in bit /bɪk-/) medially and finally.

Errors in first test were 14%.

These occurred 6% initially, 18% medially and 16% finally.

Errors in second test were 5%, an improvement of 64%.

These occurred 1% initially, 6% medially and 7% finally.

Errors in third test were 5%, an improvement of 64%.

These occurred 1% initially, 6% medially and 7% finally.

/d/

This phomeme is not difficult initially as a single consonant
(see p.56), but is very difficult in other positions,
particularly in clusters. However, it does show significant
improvements following instruction. It is released too softly
initially 17% as /t/ (as in Droop /tru:p/), and omitted 3%
(in drink /rɪŋk/). As /d/ does not exist in positions other
than initial in S.V. and as clusters do not exist at all,
it is omitted medially 44% (as in adrift /ɛrɪft/) and finally
34% (as in dodged /dɔdʒ/). It is also pronounced too softly
as its nearest phoneme /t/, which occurs finally in S.V.,
17% medially (as in handful /hɛntfu:/) and 39% finally (as
in pad /pɛt/). It is unreleased medially 3% (as in adder
/ɛd-ə/) and has a replacement of /f/ (in filmed /fɪmf/). The
main errors in conversations are medial and final omissions
of /d/ and 5-10% of unvoiced replacement /t/, occurring in
all positions.

Errors in first test were 43%.

These occurred 20% initially, 44% medially and 66% finally.

Errors in second test were 31%, an improvement of 28%.

These occurred 17% initially, 22% medially and 54% finally.

Errors in third test were 16%, an improvement of 63%.

These occurred 3% initially, 12% medially and 34% finally.

/k/

There are 18% of initial replacements. All are heard as /g/,
which is because S.V. /k/ is less fronted than A.E. /k/ (see
p. 57). /k/ is replaced in medial position only 3% with /g/
and unreleased 2% medially as retracted S.V. /k-/ (in like
/laɪk/) due to not being linked in reading --like age--. It
is omitted 3% medially (as in coaxed /koʊst/) and 6% finally
(as in take /tə/). It is an added phoneme 5% (as in shriek
/skri:k/) and has occasional permutations (as in whisked
/wɪkst/). In conversations /k/ has the same kind of errors
as in tests as well as odd replacements of /j/ (in exact
/ejɛkt/) and /s/ (in talk /tɔ:s/). This phoneme shows significant
improvement following instruction.

Errors in first test were 14%.

These occurred 18% initially, 13% medially and 10% finally.

Errors in second test were 5%, an improvement of 64%.

These occurred 11% initially, 1% medially and 3% finally.

Errors in third test were 3%, an improvement of 79%.

These occurred 2% initially, 1% medially and 6% medially.

/g/

This phoneme presents significant difficulties for S.V. speakers,
as their closest sounds are /k/ and /ð/ (see p.57). There
are 18% of replacements with /k/ initially (as in gloss /klɔs/)
and 28% medially (as in maggot /mɛkɔt/). Retracted S.V. /k/
occurs 2% medially in clusters (as in aglow /ɛk-loʊ/) and
S.V. /ɣ/ occurs 13% initially (as in grey /ɣreɪ/). /g/ is
omitted finally 5% (as in gag /gɛ/). The letter g is also
misread as an extra phoneme 17% (as in singer /sɪŋgɜ:/). /k/
is not omitted in conversations, but has similar problems
otherwise, including S.V. /ɣ/ medially (in program
/proʊɣrɛmɜ:/). Although there were significant improvements
in the second test, these were not retained as well as some
of the other consantants were, in the third test.

Errors in first test were 26%.
 These occurred 24% initially, 48% medially and 5% finally.
Errors in second test were 12%, an improvement of 54%.
 These occurred 8% initially, 22% medially and 5% finally.
Errors in third test were 18%, an improvement of 31%.
 These occurred 21% initially, 12% medially and 20% finally.

/tʃ/

/tʃ/ is replaced with hyper-correction /dʒ/ 10% initially
(as in chat /dʒɛt/). This is interesting because /tʃ/ has
a S.V. approximation /c/ in initial position (see p.57).
There is 1% replacement medially with /t/ (as in watches /wɔts/)

and 10% replacement finally (as in <u>match</u> /mɛt∫/). Other

replacements in clusters are /s/ (as in <u>pitched</u> /pɪst∫/), /∫/

(as in <u>watched</u> /wɔ∫t∫/) and /p/ (as in <u>punched</u> /pampt∫/). The

only replacements for /t∫/ in conversations are /∫/ (in <u>much</u>

/ma∫∫/) and /s/ (in <u>much</u> /mas∫/). There is a regression in the

second test due to an additional initial hyper-correction

of /dʒ/ and a medial replacement of /p/ (in <u>punched</u> /pampt∫/).

There is a significant improvement in the third test.

Errors in first test were 8%.

   These occurred 10% initially, 5% medially and 10% finally.

Errors in second test were 12%, a regression of 33%.

   These occurred 20% initially, 6% medially and 10% finally.

Errors in third test were 5%, an improvement of 38%.

   These occurred 10% initially and 4% medially.

/dʒ/

Although this phoneme shows significant improvement following

instruction, particularly in initial position where it is

easier to voice, it is very difficult for S.V. speakers to

pronounce as its nearest correspondence is unvoiced S.V. /c/

(see p.57). Most replacements are /t∫/, especially in final

position (as in <u>large</u> /la:t∫/) where it accounts for 58% of

the errors. There are many other replacements including /ʒ/

(as in <u>magic</u> /mɛʒɪk/) which accounts for 6% of errors in all

positions, /k/ (in <u>trudged</u> /trakt/) and /g/ (in <u>trudged</u> /dragt/)

30%, and over-pronunciations of /dʒə/ (as in <u>age</u> /ɛdʒə/) and

/tʃɪ/ (as in badge /bɛtʃɪ/) 10% in final position. Also it has errors of /t-/ (as in trudged /trat-/), /s/ (as in lunged /laŋst/), /z/ (in age /eɪz/), /ʃ/ (in age /eɪʃ/), omissions (as in large /la:/) and misreadings of /dʒ/ (in age /ɛdʒə/) and /g/ (as in lunged /laŋgət/). In conversations, the errors follow much the same pattern as they do in the tests.

Errors in first test were 40%.

    These occurred 22% initially, 41% medially and 57% finally.

Errors in second test were 22%, an improvement of 45%.

    These occurred 28% medially and 39% finally.

Errors in third test were 18%, an improvement of 55%.

    These occurred 30% medially and 24% finally.

/f/

This phoneme occurs only initially in S.V. but has no errors initially or finally in first test, and very few medially (see p.57). It has 7% of omissions medially (as in coughs /kɔs/), 2% of replacements with /p/ (as in triumphs /traɪamps/) and is overarticulated as /v/ (in laughs /lavs/). It is omitted medially (in fifteen /fɪti:n/) and replaced with /s/ initially (in flat /slɛt/) in conversations.

Errors in first test were 3%.

    These occurred 9% medially.

Errors in second test were 1%, an improvement of 67%.

    These occurred 3% medially.

Errors in third test were 2%, an improvement of 33%.

These occurred 4% medially and 1% finally.

/v/

This phoneme occurs only initially in S.V., where it has very
few errors and is pronounced too softly only 10% as /f/ (in
vat /fɛt/), (see p.58). It is also replaced with /f/ 20% medially
(as in avid /ɛfɪd/) and 21% finally (as in have /hɛf/). Other
errors are 3% of omissions medially (as in coughs /kɔs/) and
25% finally (as in five /faɪ/) as well as 1% of over-
articulations finally (as in five /faɾvə/), which occur when
speakers first try to pronounce this sound in an unfamiliar
position. The same errors occur in conversations, as well
as /b/ (in have /hɛb/) and /s/ (in improve /ɪmprɔ:s/).

Errors in first test were 29%.

These occurred 10% initially, 23% medially and 55% finally.

Errors in second test were 13%, an improvement of 55%.

These occurred 11% medially and 28% finally.

Errors in third test were 10%, an improvement of 66%.

These occurred 10% medially and 20% finally.

/θ/

This phoneme is very difficult for speakers of S.V. speakers
to pronounce as it has no correspondence in S.V. (see p.58).
It is replaced with /t/ 27% initially (as in thin /tɪn/),
13% medially (as in nothing /natɪŋ/) and 23% finally (as in

myth /mɪt/). It has 14% of omissions medially (as in months /mans/) and 4% finally (as in sixth /sɪgs/). Other replacements are /w/ 2% medially (as in healths /hew₂s/), /d/ 3% finally (as in myth /mɪd/), and over-pronunciations of /ð/ 10% initially (as in thin /ðɪn/) and medially (as in healths /helðz/. It has the same errors in conversations, as well as /f/ initially (in think /fɪŋk/).

Errors in first test were 31%.

These occurred 30% initially, 32% medially and 32% finally. Errors in second test were 14%, an improvement of 55%.

These occurred 13% initially, 15% medially and 15% finally. Errors in third test were 11%, an improvement of 65%.

These occurred 13% initially, 10% medially and 10% finally.

/ð/

This phoneme is extremely difficult for speakers of S.V. to pronounce due to having no correspondence in S.V., the closest sound being unvoiced /t/ or /d/ (see p.58). Even so, it showed significant improvement in tests. All initial replacements are /d/ (as in they /deɪ/). It is especially difficult in medial and final positions and is replaced 24% with /d/ medially (as in bather /beɪdɜ:/) and 10% as /t/ finally (as in bathe /beɪt/). It is pronounced too softly medially 28% as /θ/ (in bathes /beɪθs/) and 20% finally (in bathe /beɪθ/). Other replacements are 4% medially as /tʃ/ (in bather /beɪtʃɚ/) and 1% as /s/ (in clothed /klɔst/). There are also 6% of

238

omissions medially (as in bathes /beɪs̯/). It has the same errors in conversations as well as /t/ and /z/ (in the as /tʒ̯/ and /zʒ̯/).

Errors in first test were 56%.

These occurred 34% initially, 64% medially and 70% finally.
Errors in second test were 43%, an improvement of 23%.

These occurred 32% initially, 48% medially and 50% finally.
Errors in third test were 30%, an improvement of 46%.

These occurred 9% initially, 32% medially and 50% finally.

/s/

This phoneme does not occur in positions other than initial in S.V. and is omitted 8% finally (as in moves /mʊf/) which may be partly due to confusion with A.E. verb endings. It is replaced 4% medially with the less dental S.V. /S/ (see p.58). It is over-articulated as /z/ (in months /manz/), /zʒ̯/ (in friends /frenzʒ̯/) and /ˢ̲/ (in lumps /lampˢ̲/). It is also replaced with /d/ (in bouncer /poʊdʒ:/) and becomes permutated in clusters (as in optics as /ɔpstɪk/). Due to confusion with A.E. verb endings, it is also an extra phoneme (in gasped /ga:spst/). In conversations /s/ shows much the same kind of errors, including other instances where it is an extra phoneme (as in because /bɪskɔs/ and thin /sθɪn/).

Errors in first test were 9%.

These occurred 3% initially, 13% medially and 12% finally.

239

Errors in second test were 2% an improvement of 78%.

These occurred 4% medially and 3% finally.

Errors in third test were 4% an improvement of 56%.

These occurred 3% medially and 8% finally.

/z/

This phoneme has no correspondence with S.V. so is extremely
difficult to pronounce (see p.58). It is replaced with /s/
30% initially (as in zip /sɪp/) and finally (as in fizz /fɪs/),
and 27% medially (as in pizza /pɪsa/). It is replaced with
/ʃ/ 3% finally (in fizz /fɪʃ/), /d/ (in as /ɛd/) and is
over-articulated finally 4% as /zə/ (in moves /mu:zə/) and
/əz/ (in bathes /beɪðəz/). It is replaced initially with /dʒ/
(in zip /dʒɪp/) which is a phoneme that also does not exist
in S.V., so must be a kind of hyper-correction. It is also
omitted medially (in Mazda /mɛda/) and finally (in moves
/mʊf/), and is an extra phoneme initially (in usually /zu:zalɪ/).
In conversations, the most usual replacements occur as /s/
(as in easy /ɪsɪ/).

Errors in first test were 44%.

These occurred 63% initially, 28% medially and 41% finally.

Errors in second test were 27%, an improvement of 39%.

These occurred 40% initially, 19% medially and 22% finally.

Errors in third test were 17%, an improvement of 61%.

These occurred 20% initially, 14% medially and 16% finally.

/ʃ/

Although an approximation to this phoneme occurs only initially in S.V. (see p.59), it is not difficult for S.V. to pronounce and shows no errors in final position. All replacements are /s/, as S.V. speakers have difficulty in differentiating /s/ from /ʃ/, having only one, intermediate version of this phoneme in their language. There are 10% replacements initially (as in ship /sɪp/) and 14% medially (as in fisher /fɪsɜ:/). The same problem occurs in conversations, as well as an omission medially (in distinguished /dɪstɪŋwɪt/).

Errors in first test were 8%.

  These occurred 10% initially and 14% medially.

Errors in second test were 1%, an improvement of 88%.

  These occurred 2% medially.

Errors in third test were 1%, an improvement of 88%.

  These occurred 2% medially.

/ʒ/

This phoneme has no correspondence with S.V. and is very difficult to pronounce (see p.59), but it is interesting to note that it showed significantly more improvements in the third test. It is replaced with /z/ 20% medially (as in vision /vɪzɜn/) and 20% with /s/ (as in usually /u:sɪelɪ/). It is replaced with /dʒ/ as a kind of over- pronunciation 5% medially (in vision /vɪdʒɜn/) and 30% finally (in rouge /roʊdʒ/). It is also pronounced too softly as /tʃ/ (in rouge /roʊtʃ/) and

241

is omitted, becoming a S.V. triphthong 5% medially (in <u>usually</u>
/ɪuːiː/. In conversations, there were very few examples and
no errors.

Errors in first test were 43%.

  These occurred 45% medially and 40% finally (there were

  no examples initially).

Errors in second test were 38%, an improvement of 12%.

  These occurred 25% medially and 50% finally.

Errors in third test were 30%, a 33% improvement.

  These occurred 20% medially and 40% finally.

/h/

This phoneme corresponds with initial /h/ in S.V., and presents
no difficulty for S.V. speakers (see p.59), especially as
it does not exist in the major difficulty of clusters. There
were no errors in conversations.

There were no errors in tests.

/m/

This phoneme corresponds with S.V. /m/ initially and finally,
and is not difficult to pronounce (see p.59). It has no errors
initially or medially and has only a few errors finally. These
occur 3% as /n/ (as in <u>frame</u> /fren/), 2% as /p/ (in <u>chasm</u>
/tʃɛsp/) and 2% as an omission (in <u>chasm</u> /tʃaː/). In

242

conversations,there is only one unreleased /m-/ (in <u>sometimes</u>
/ˌsam-taːms/).

Errors in first test were 3%.

  These occurred 10% finally.

Errors in second test were 4%, a regression of 33%.

  These occurred 12% finally.

Errors in third test were 1%, an improvement of 33%.

  These occurred finally.

/n/

This phoneme corresponds with S.V. /n/ initially and finally
and is not difficult to pronounce (see p.59). It has no errors
initially and very few finally, but has some difficulties
medially where it is omitted 17% (as in <u>account</u> /ɛkoʊt/),
unreleased 3% (as in <u>nineteen</u> /naɪn-tiːn/) and replaced with
/ŋ/ 2% (in <u>lunged</u> /laŋt/). It is also an extra phoneme medially
(as in <u>menthol</u> /mentɔnt/) and finally (as in <u>minced</u> /mɪnsdn/).
In conversations it has omissions and replacements with /ŋ/
as well as a final replacement with /k/ (in <u>design</u> /desaɪk/).

Errors in first test were 10%.

  These occurred 21% medially and 9% finally.

Errors in second test were 3%, an improvement of 70%.

  These occurred 9% medially.

Errors in third test were 4%, an improvement of 60%.

  These occurred 7% medially and 1% finally.

This phoneme is similar to, although less velarised than S.V. /ŋ/
which also occurs finally, so is not difficult for S.V. speakers.
It is, however, over-articulated perhaps due to misunderstood
orthography, with an extra phoneme /g/ 17% medially (in singer
/sɪŋgɜ:/) and 10% finally (in thing /θɪŋgə/). It is replaced
medially 5% with /n/ (as in thanked /tant/) and is an extra
phoneme (in trudged /drɛkŋ/). In conversations, it is
over-articulated (as in English /eŋkliʃ/ and tongue /taŋgə/)
and replaced with /n/ finally (in studying /stadɪn/).

Errors in first test were 16%.

   These occurred 22% medially and 10% finally (there were

   no examples initially).

Errors in second test were 8%, an improvement of 50%.

   These occurred 15% medially.

Errors in third test were 9%, an improvement of 44%.

   These occurred 7% medially and 10% finally.

/l/

This phoneme has no errors initially as /l/ exists in that
position in S.V. (see p.60). It presents difficulties in other
positions, however, substituting the nearest S.V. approximation
/ʊ/ 15% medially (as in teller /teʊə/) and 41% finally (as
in sell /seʊ/). It is omitted 8% medially (as in sulks /saks/)
and 10% finally (as in handful /hɛnfu:/). It is replaced with
/ə/ 1% medially (in films /fɪəmʒ/), /n/ (in cults /kants/)

244

and /ɔ:/ 1% finally (in haggle /hɛgɔ:/). Other replacements are medially as /n/ (in cults /kants/), /m/ (in helps /hemps/), /l/ (in clearly /klɪəlɪ/) and /w/ (in personality /pɜ:sənɛwɪti:/). It shows the same kind of errors in conversations.

Errors in first test were 26%.

These occurred 26% medially and 53% finally.

Errors in second test were 14%, an improvement of 46%.

These occurred 15% medially and 28% finally.

Errors in third test were 10%, an improvement of 62%.

/r/

This phoneme shows less difficulty initially, where it has a trilled approximation in S.V. (see p.61). It is replaced in this position only 5% as S.V. /r̃/ (in red /fed/),whereas it is replaced 26% medially (as in beret /beřeɪ/). Other errors occur medially as an omission (in difference /dɪfens/), as a replacement (in prime /pwaɪm/) and as an extra phoneme (in first /fr̃a:st/). In conversations it has the same kind of errors, as well as /l/ (in problem /plɔblem/) and /ʃ/ (in structural /stʃaktʃə/) in medial position. This phoneme did not respond readily to instruction at first, but showed significant improvement six months later.

Errors in first test were 17%.

These occurred 5% initially and 28% medially (this phoneme

does not occur finally).

Errors in second test were 17%, showing no improvement.

These occurred 13% initially and 21% medially.

Errors in third test were 8%, an improvement of 53%.

These occurred 5% initially and 10% medially.

/j/

This phoneme occurs in S.V. (see p.60), so was not difficult to correct. In initial position, it had 15% replacements of /ʒ/ (in yaught /ʒɔt/), 5% of /d/ (in yaught /dɔt/) and 5% omissions (in usually /u:zəli:/). It is replaced with S.V. allophone /j̟/ (in foyer /fɔj̟ʒ:/) and omitted 5% (in foyer /fɔ:ʒ:/) in medial position.

Errors in first test 18%.

These occurred 25% initially and 21% medially (this phoneme does not occur finally).

Errors in second test were 10%, an improvement of 44%.

These occurred 10% initially and 10% finally.

Errors in third test were 3%, an improvement of 83%.

These occurred 5% initially and 5% finally.

/w/

This phoneme exists in S.V. and has very few errors (see p.61).
These occur only in medial position, 3% as /r/ (as in twice /traɪs/) and 3% as omissions (in aquainted /ɛkɔnted/).
Errors in first test were 3%.

These occurred 6% medially (this phoneme does not occur finally).

There were no errors in second or third tests, showing improvements of 100%.

6.4 Consonant clusters

Consonant clusters have been summarized in Chapter 5 as follows:

/ps/, /pt/, /pl/ and /pr/ are summarised on p.137.

/bd/, /bdʒ/, /bz/, /bl/ and /br/ are summarised on p.140.

/ts/, /tʃt/, /tl/, /tr/ and /tw/ are summarised on p.145.

/dz/ and /dr/ are summarised on p.148.

/kt /, /ks/, /kʃ/, /kl/, /kr/ and /kw/ are summarised on p.152.

/gl/ and /gr/ are summarised on p.154.

/dʒd/ is summarised on p.156.

/ft/, /fθ/, /fs/, /fl/ and /fr/ are summarised on p.159.

/vd/ and /vz/ are summarised on p.161.

/θt/, /θs/ and /θr/ are summarised on p.163.

/ðd/ and /ðz/ are summarised on p.166.

/sp/, /st/, /sk/, /sm/, /sn/ and /sw/ are summarised on p.169.

/zd/, /zm/ and /zn/ are summarised on p.172.

/ʃr/ is summarised on p.174.

/nt/, /ntʃ/, /nd/, /ndʒ/, /nθ/, /ns/, /nz/ and /nl/ are summarised on p.179.

/ŋk/ and /ŋl/ are summarised on p.180.

/lp/, /lt/ and /lf/ are summarised on p.181.

/ktr/, /kts/ and /ksθ/ are summarised on p.184.

/spt/, /sps/, /spl/, /spr/, /sts/, /str/, /skt/, /sks/, /skr/, and /skw/ are summarised on p.193.

/mpt/, /mps/, /mft/ and /mfs/ are summarised on p.198.

/nst/, /ntw/, /ntʃt/, /ngl/, /nkl/, /ntl/, /ndʒd/ and /nθs/ are summarised on p.205.

/ŋkt/ and /ŋks/ are summarised on p. 207.

/lpt/, /lps/, /lts/, /lkt/, /lks/, /lθs/, /lst/, /lmd/ and /lmz/ are summarised on p. 219.

CHAPTER 7

SUGGESTIONS FOR TEACHING

7.0 <u>Introduction</u>

During the development of this thesis, I have spent a great
amount of time reflecting on the different methods I have
used for the teaching of pronunciation to Vietnamese people.
At the same time I have been in the most fortunate position
of being able to regularly conduct English pronunciation classes
for the benefit of both Vietnamese and other Asian speakers
whose language backgrounds have been Cantonese, Mandarin,
Korean, Japanese and Khmer. The methods and explanations used
seemed to be suitable for students with these various
backgrounds.

My basic methodology has been to model the sounds for students
to imitate, using humorously illustrated pronunciation books
containing phonetic transcriptions have also been used for
further practice in all aspects of pronunciation. This has
been done in small groups of up to six people or individually,
for a minimum of ten, one hour lessons before students being
referred to individual learning material, using tapes and
books. I have found, however, that this latter method has
not been very popular, as students need a good instructor
to point out the errors they are unable to recognise themselves.

7.1 Planning what to teach

It is very useful for the teaching pronunciation if new students are recorded reading some word lists or reading passages. I have also transcribed and colour coded the transcriptions, indicating the types of errors for students to see. For example, example, red was used to indicate complete omission of sound, yellow was used for sounds that are released too softly, orange for over-articulated sounds, green for grammatically incorrect use of verb or plural endings, blue for errors caused by misunderstood orthography. This is of course time consuming, but has both the advantage of showing the students quite graphically just how they have mispronounced the sounds, as well as giving the teacher an accurate needs analysis on which to base a series of lesson plans. Generally, the students were very interested to see their errors.

7.2 Some practical ideas for teaching

I have found it useful to firstly show students the Internatioal Phonetic Alphabet symbols used for Australian English, making sure that the sounds and symbols are recognised so that they can be used by the teacher. They will also make it possible for the students to begin using dictionaries to full advantage. (It can be noted that the most used dictionary in Australia, The Maquarie Dictionary, uses the I.P.A. symbols.) Showing diagrams of mouth positions can be helpful to some students in learning to articulate new sounds, but repeated oral demonstrations and explanations are usually more effective.

In some cases a small mirror has been used to advantage.

It is apparent that one of the initial hindrances to improvement of pronunciation is that students are not able to 'hear' themselves accurately. For this reason, I teach techniques such as cupping the hand behind the ear or standing very closely facing into the corner of a room, to reflect the students' voices back and intensify their hearing. The more recent method of letting the students listen to their voice from a tape has also been used successfully. It is also most important for students to learn initially preferably from a native speaker, or else to listen to tapes of a native speaker, because errors initially learned are difficult to correct (Hammarstrom, 1954, p.307).

It is necessary to repeatedly remind students to project their voice more forward in the mouth, as most of their sounds are articulated more to the back. It is also important to repeatedly remind them to lengthen and relax long vowels and diphthongs, and to allow the mouth shape used for pronouncing the consonants to be governed by the mouth shape of the vowel. This can be done by asking the students to pronounce the vowels or diphthongs first, before pronouncing the actual word, for example, /i:/, beat or /oʊ/, boat. In other words, their degree of co-articulation is too low and has to be learned in two steps.

Showing students copies of sonagrams of long and short vowels (see chap.10) has helped them to fully understand the shortened

252

lengths of the vowels used in their own language, especially when these are followed by a consonant. They are then aware of the importance of not transferring them into English.

Vietnamese is a tonal language where the voicing is concentrated primarily in the vowel sounds so students have difficulty learning how to voice consonants correctly. I have found it very useful to show the following diagram to enable them to see which 'unvoiced' phonemes with air released through the mouth have a corresponding 'voiced' phoneme with little or no airflow, using the same mouth position. The 'voicing'in the larynx was felt with the finger and the palm of the hand was used to check the airflow. These sounds should be practised in minimal pairs, to make sure they contrast well. Vietnamese does not contain the A.E. phonemes of /s/ and /ʃ/, so they also need to be practised in contrast. As well as this, practise of contrasting /z/ and /ʒ/ needs to be given.

unvoiced	/p/	/t/	/k/	/tʃ/	/f/	/θ/	/s/↔/ʃ/
	↕	↕	↕	↕	↕	↕	↕ ↕
voiced	/b/	/d/	/g/	/dʒ/	/v/	/ð/	/z/↔/ʒ/

As the unvoiced sounds are easier to pronounce than the voiced ones, I have found it useful to relate the concept of Vietnamese 'dropped' vowels (dau nang) which are the vowels with the lowest of the six possible tones. I explain that the vowels in English are not 'dropped' but the voiced consonants are.

253

I have found it useful to point out to students that in their language it is very good practise (especially for men) to pronounce the monosyllabic words separately and clearly, with final consonants unreleased. I then explain that final consonants are also sometimes not released in English when words are pronounced in isolation or are not linked to another word e.g. "Where is the hat?" where /t/ may be unreleased in normal speech. In contrast, "The hat is on the table", /t/ is linked onto the 'is' and thereby always released. (This of course is then often shortened to /ts/ as "The hat's on the table".) I then explain the breathing processes involved in English and the relation these have to stress and intonation which can be more easily taught following, and in relation to this information. (Stress and intonation, however, have been considered to be outside the scope of this thesis.)

Another point worth mentioning here is that Vietnamese girls who have come from very traditional backgrounds tend to speak with an inappropriately high and softly pitched voice. They can learn to use their voice in a more effective way if it is explained that they need to lower it and project it more forward.

In some cases I have discovered 'tricks' to help students master phonemes. For example, in the case of /g/, I explain that in English this sound is not fricative and it is also forward in the mouth. To help find the correct position, I

254

ask the students to repeat /k/ several times before saying
/g/. In the case of /dʒ/ (one of the most difficult consonants),
I have found that if the students repeat /jə̃/ several times
first, they are then able to pronounce a clear /dʒ/. People
who have learned French as a second language seem to have
added difficulties due to interference in particular when
pronouncing /g/, /dʒ/ and /r/.

Another 'trick' can be used to help the students pronounce
a final /l/ (which is another difficult sound). This is done
by asking students to pronounce la-la-la, then lalalal-al-al
until they are able to use their tongue correctly. In the
case of /r/, it must be explained that in English it is not
flapped. Students are then asked to almost shut their mouths,
pulling both corners of the mouth firmly in as they try to
pronounce the sound correctly.

There are some types of errors that are only made by some
of the students, for example over-articulation in an effort
to speak well, often resulting in an extra /ə̃/ sound, and
a misuse of /s/, either by using it too often or not enough.
This latter problem is one of misunderstood grammar in English
verb and plural endings. Students need to have this pointed
out so that they can correct their grammar. Some students
try to labialise /l/, making a /ʊ/ sound and others pronounce
a flapped /l/.

After the various phonemes have been mastered individually, there follows the problem of clusters, as they do not occur in Vietnamese. One of the most important of these to master is final /ts/, as it is quite difficult for the students who tend to separate the two phonemes as /t-s/. Other clusters, especially those occurring in final position such as /dz/ and /nz/ need to be practised as well.

As students begin to understand and master English pronunciation as well as the supra-segmentals of linking, rhythm, stress and intonation, it will be found that their improvement will be both continuous and long lasting even though there is no further instruction given. All students continue to improve their pronunciation, even after the end of the classes.

These suggestions are certainly not complete and I hope to be in a position to develop them further in the future. It would be most useful if a pronunciation book especially designed to suit the classroom teaching of Asian students of English were to be produced, and it is my wish to do so in the near future.

CHAPTER 8

PRONUNCIATION DIFFICULTIES AND IMPROVEMENTS

8.0 <u>Introduction</u>

In this chapter the percentages of pronunciation errors in
each of the three tests and the improvements made have been
calculated in two ways. The first way was to estimate from
the overall number of examples of vowels and consonants in
the tests, and the second way was to estimate only the consonants
in word position. Orders of phoneme difficulties and improvements
of individual students have been analysed.

8.1 <u>Results of statistical analysis</u>

The degree of similarity among the ten subjects regarding
the errors made in pronouncing the twenty-four consonants
and the twenty vowels and diphthongs was determined by
calculating the Coefficient of Concordance (W) and Spearman's
average rank correlation coefficient (RS) (Moroney, 1956).

The results showed there was a high level of concordance among
the ten subjects in the ranking of consonants according to
pronunciation difficulty (W= 0.65, 0.60 and 0.54 for tests
one, two and three, respectively). These values are highly
significant as the probability of them arising by chance alone
are less than 1 in 1,000 ($p < 0.001$). The corresponding Spearman's
average rank correlation coefficient for the same tests were
0.61, 0.56 and 0.48, respectively.

In the case of the vowels and diphthongs, the coefficient
of concordance for the three tests was much lower (W= 0.30,
0.20 and 0.16) as was Spearman's average rank correlation
coefficient (R= 0.22, 0.11 and 0.07). The results for tests
one and two were significant at the 0.1% and 5% levels,
respectively.

Changes in the performance of the subjects as measured by
the decrease in the percentage of errors made were examined
using Wilcoxon's paired T test. Without exception, all subjects
showed a significant ($p < 0.01$) or highly significant ($p < 0.001$)
decrease in consonant pronunciation errors between tests one
and two and tests one and three.

In the cases of vowels and diphthongs, there was also an overall
improvement from tests one to three, but it was not possible
to demonstrate statistical significance, due to the relatively
low error rate recorded initially.

Overall percentages of errors in the three tests were as follows:
    first test showed 19.3% of errors
    second test showed 11.7% of errors
    third test showed 8.4% of errors

Table 1
Total error improvement percentages (IP) of ten students in vowels and diphthongs (not including added phonemes), showing initial error percentages (EP)
(Phonemes are shown in order of difficulty in first test)

| | Students in Order of Improvement | | | | | | | | | | | | | | | | | | | |
| | 9 | | 6 | | 5 | | 3 | | 8 | | 7 | | 4 | | 10 | | 1 | | 2 | |
Vowels	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP
/iː/	0	-	10	100	5	100	5	100	43	56	19	66	0	-	48	11	29	100	48	100
/ɔː/	11	100	11	100	11	100	0	-	0	-	11	100	22	100	11	100	11	100	33	67
/uː/	0	-	0	-	0	-	33	100	0	-	0	-	0	-	33	100	33	100	0	-
/ʊ/	0	-	0	-	0	-	50	0	0	-	0	-	0	-	0	-	0	-	0	-
/ɛ/	0	-	0	-	8	100	0	-	0	-	0	-	0	-	0	-	15	100	0	-
/ɜː/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	25	0
/ɪ/	0	-	8	100	0	-	0	-	12	67	0	-	0	-	0	-	0	-	0	-
/e/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	5	0	14	0
/ɔ/	8	100	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
/aː/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
/a/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
/ə/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Diphthongs																				
/eɪ/	20	33	20	66	27	100	20	0	13	0	20	33	20	33	13	50	33	0	53	63
/aʊ/	0	-	20	100	0	0	0	-	20	100	40	50	20	100	0	0	0	-	0	-
/oʊ/	0	-	0	-	29	100	14	100	0	-	0	-	29	100	14	100	14	100	0	-
/aɪ/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	13	0	13	0
/ɔɪ/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
/ɪə/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
/ɛə/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
/ʊə/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-

8.2 Difficulties and improvements in vowels

Table 1 shows the overall order of difficulty in the
pronunciation of the vowels and diphthongs (not calculated
in word position, and not including added phonemes) of the
ten students in the first test, and the percentages of their
improvements, nine months later. The most difficult vowels
are the long vowels, /i:/, /ɔ:/ and /u:/ (see chap.6) and
the most difficult diphthongs are /eɪ/, /aʊ/ and /oʊ/.

Table 2
Order of difficulty of ten students in vowels and diphthongs

Vowels	Students									
	1	2	3	4	5	6	7	8	9	10
/i:/	2	2	4	-	5	4	3	1	-	1
/ɔ:/	7	3	-	2	3	3	4	-	2	5
/æ/	1	-	-	-	-	-	-	-	-	2
/ʊ/	-	-	1	-	-	-	-	-	-	-
/ɛ/	3	-	-	5	4	-	-	-	-	-
/з:/	-	4	-	-	-	-	-	-	-	-
/ɪ/	-	-	-	-	-	5	-	4	-	-
/e/	8	6	-	-	-	-	-	-	-	-
/ɔ/	-	-	-	-	-	-	-	-	3	-
/a:/	-	-	-	-	-	-	-	-	-	-
/a/	-	-	-	-	-	-	-	-	-	-
/ə/	-	-	-	-	-	-	-	-	-	-
Diphthongs										
/eɪ/	5	1	2	3	2	1	2	3	1	4
/aʊ/	-	5	-	3	-	1	1	2	-	-
/oʊ/	4	-	3	1	1	-	-	-	-	3
/ʊə/	-	8	-	-	-	-	-	-	-	-
/aɪ/	6	7	-	-	-	-	-	-	-	-
/ɔɪ/	-	-	-	-	-	-	-	-	-	-
/ɪə/	-	-	-	-	-	-	-	-	-	-
/ɛə/	-	-	-	-	-	-	-	-	-	-

Table 2 shows the concordance of the order of difficulty among the individual students recorded in the first test. This was not as stable as the concordance of the consonants, probably due to the lower number of examples recorded.

Table 3
Error percentages of vowels and diphthongs (calculated in word position and including added phonemes) and overall percentages of improvements (IP) in second and third tests. The difficulty order (OD) is shown for each test and the overall order of improvement (OIP) is shown in the last column. (The phonemes are shown in order of difficulty in first test)

Vowels	OD	First test	OD	Second Test	IP	OD	Third Test	IP	OIP
/iː/	1	23	1	14	39	1	9	61	6
/uː/	2	15	3	5	67	2	5	67	4
/ɔː/	3	6	5	3	50	5	2	67	5
/ə/	4	5	5	3	40	-	0	100	3
/ʊ/	5	5	3	5	0	2	5	0	8
/e/	6	4	2	7	-75	4	3	25	7
/ɛ/	7	2	7	1	50	-	0	100	1
/ɪ/	8	1	-	0	100	-	0	100	1
/aː/	-	0	-	0	-	-	0	0	-
/a/	-	0	-	0	-	-	0	0	-
/ɜː/	-	0	-	0	-	-	0	0	-
/ɔ/	-	0	-	0	-	-	0	0	-
Diphthongs									
/eɪ/	1	21	1	12	43	2	3	86	2
/oʊ/	2	15	4	1	93	-	0	100	1
/aʊ/	3	10	2	9	10	1	4	60	3
/aɪ/	4	1	3	2	-50	3	1	0	4
/ɔɪ/	-	0	-	0	-	-	0	0	-
/ɪə/	-	0	-	0	-	-	0	0	-
/ɛə/	-	0	-	0	-	-	0	0	-
/ʊə/	-	0	-	0	-	-	0	0	-

Table 3 shows the average order of difficulty of the pronunciation of the vowels and diphthongs. This is based on the more detailed analysis of phonemes calculated in word position (see chapter 5) and includes vowels as added phonemes. The order of difficulty is similar to table 1, with the most difficult vowels being /i:/, /u:/ and /ɔ:/, and the most difficult diphthongs being /eɪ/, /oʊ/ and /aʊ/. It also shows the improvements in the second and third tests, showing the changed orders of difficulty. The orders of improvement of the phonemes are most probably influenced by the fact that I may have spent more time teaching the more difficult phonemes to students than the less difficult ones.

Table 4
Total error improvements (IP) of ten students in consonants
(not including added phonemes), showing initial error percentages (EP)
(Phonemes are shown in order of difficulty in first test)

	Students in Order of Improvement																		
	9		2		10		1		3		4		7		8		5		6	
Consonants	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP	EP	IP
/dʒ/	55	50	36	50	82	44	82	11	82	45	55	33	64	57	82	67	82	56	91	60
/ð/	25	0	67	50	17	0	42	40	33	25	50	83	25	89	50	0	67	13	92	46
/d/	34	33	51	61	43	80	66	39	46	69	54	58	57	83	51	22	74	42	63	41
/ʒ/	0	-	0	-	67	50	33	100	67	50	33	100	33	0	100	67	100	33	67	0
/z/	3	57	54	67	32	44	54	27	54	15	71	65	29	50	43	58	61	59	61	47
/l/	9	100	19	27	43	60	38	96	50	48	50	62	55	75	50	48	45	4	45	38
/v/	12	50	24	75	35	100	35	83	12	50	53	78	36	100	53	67	53	44	53	67
/θ/	10	0	10	100	43	67	29	100	62	85	19	100	33	100	33	86	33	57	62	15
/j/	0	-	0	-	0	-	0	-	33	100	67	100	67	50	0	-	0	-	67	50
/g/	23	67	31	50	15	-50	23	33	0	-	31	0	15	0	8	0	46	33	15	50
/b/	18	0	12	-49	18	67	18	33	12	0	24	75	6	100	24	75	41	57	18	0
/r/	0	-	12	50	15	21	62	72	9	100	9	100	9	100	0	-	12	75	41	72
/ʒ/	0	-	0	-	14	100	14	100	29	100	14	0	14	0	14	100	29	100	29	50
/t/	3	100	8	50	13	90	4	66	14	-9	9	100	20	100	41	56	11	22	18	7
/ʃ/	0	-	0	-	20	50	0	-	20	100	10	100	10	100	30	100	0	-	50	80
/k/	2	-87	13	66	15	71	4	100	11	100	9	100	13	84	13	84	11	80	13	84
/s/	2	100	4	49	12	64	4	26	9	24	5	100	4	100	18	77	11	31	7	51
/n/	9	83	3	0	13	55	7	0	13	23	2	100	12	100	4	66	7	20	9	33
/p/	0	-	12	80	7	100	0	-	2	100	15	100	10	100	2	100	5	100	20	88
/tʃ/	14	0	14	100	0	-	0	-	0	-	0	-	14	100	0	-	0	-	29	100
/f/	0	-	11	33	0	-	7	100	4	0	7	100	22	83	0	-	7	100	7	50
/w/	0	-	11	100	0	-	0	-	0	-	0	-	0	-	5	100	0	-	0	-
/m/	3	0	0	-	0	-	0	-	3	100	0	-	6	100	3	100	0	-	0	-
/h/	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-

8.3 Difficulties and improvements in consonants

Table 4 shows the overall order of difficulty in the
pronunciation of consonants (not calculated in word position
and not including added phonemes) of the ten students in the
first test, and the percentages of their improvements, nine
months later. The most difficult consonant is /dʒ/, followed
by /ð/, /d/, /ʒ/, /z/, /l/, /v/, /θ/, /j/ and /g/ in this
order.

Table 5
Order of difficulty of ten students in consonants

Phoneme	Students									
	1	2	3	4	5	6	7	8	9	10
/dʒ/	1	4	1	3	2	2	3	2	1	1
/ð/	5	1	7	6	4	1	1	5	3	10
/d/	2	3	6	4	3	5	5	4	2	4
/ʒ/	8	-	2	8	1	3	7	1	-	2
/z/	4	2	4	1	5	7	9	7	3	7
/l/	6	7	5	6	8	9	4	5	11	3
/v/	7	6	12	5	6	8	6	3	8	6
/θ/	9	15	3	11	10	6	8	9	9	4
/j/	-	-	7	2	-	3	2	-	-	-
/g/	10	5	-	9	7	17	12	15	5	11
/b/	11	11	13	10	9	16	20	11	6	9
/r/	3	11	16	15	12	10	19	-	-	13
/ŋ/	12	-	9	13	11	11	13	13	-	14
/t/	17	16	11	14	13	15	11	8	13	16
/ʃ/	-	-	7	2	-	3	2	-	-	-
/k/	15	9	15	17	15	14	15	14	14	12
/p/	-	10	20	12	18	13	18	19	-	18
/n/	13	17	12	20	16	18	16	17	10	15
/s/	15	16	17	19	14	20	22	12	15	17
/tʃ/	-	8	-	-	-	11	13	-	7	-
/f/	13	13	18	18	10	19	10	-	-	-
/w/	-	14	-	-	-	-	-	16	-	-
/m/	-	-	19	-	-	-	21	18	12	-
/h/	-	-	-	-	-	-	-	-	-	-

Table 5 shows the order of difficulty in the pronunciation
consonant phonemes by the individual students recorded in
the first test. This test shows a high level of concordance
among the students.

Table 6
Order of difficulty showing percentages in
word position and average of these

	Initial	Medial	Final	Average
/ð/	34	64	70	56
/z/	63	28	41	44
/d/	20	44	66	43
/ʒ/	-	45	40	43
/dʒ/	22	41	57	40
/θ/	30	32	32	31
/v/	10	23	55	29
/g/	24	48	5	26
/l/	0	26	53	26
/j/	25	21	-	18
/r/	5	28	-	17
/ŋ/	-	22	10	16
/k/	18	13	10	14
/t/	6	18	16	14
/b/	1	16	20	12
/n/	0	21	9	10
/s/	3	13	12	9
/tʃ/	10	5	10	8
/ʃ/	10	14	0	8
/p/	9	6	5	7
/m/	0	0	10	3
/w/	0	6	0	3
/f/	0	9	0	3
/h/	0	0	-	0
Overall errors	15.0%	24.7%	27.5%	22.3%

Table 6 shows the average order of difficulty of the
pronunciation of the consonants. This is based on the more
detailed analysis of phonemes calculated in word position
(see chapter 5) and includes consonants as added phonemes.
As can be seen, /ð/, /d/, /dʒ/, /v/, /l/ and /b/ show less
difficulties in initial than in medial position, with the
most errors occurring in final position. /j/ and /r/ do not
occur in final position, but show more difficulties medially
than initially. /ʒ/, /g/, /ŋ/, /ʃ/, /p/ and /r/ show most
errors medially and least finally, /t/, /n/ and /s/ show most
errors medially and least initially and /k/ shows most errors

Table 7
Average error percentages and percentages of improvements
in second and third tests

Original Order of Difficulty	Average Errors in First Test	Average Errors in Second Test	Improvements from First to Second Test	Average Errors in Third Test	Improvements from First to Third Test
/ð/	56	43	23	30	46
/z/	44	27	39	17	61
/d/	43	31	28	28	63
/ʒ/	43	38	12	30	33
/dʒ/	40	22	45	18	55
/θ/	31	14	55	11	65
/v/	29	13	55	10	66
/g/	26	12	54	18	31
/l/	26	14	46	10	62
/j/	18	10	44	3	83
/r/	17	18	0	8	53
/ŋ/	16	8	50	9	44
/k/	14	5	64	3	79
/t/	14	5	64	5	64
/b/	12	4	67	-	67
/n/	10	3	70	4	60
/s/	9	2	78	4	56
/tʃ/	8	12	-33	5	38
/ʃ/	8	1	88	1	88
/p/	7	1	80	0	100
/m/	3	4	-33	1	33
/w/	3	0	100	8	100
/f/	3	1	67	2	33
/h/	-	-	-	-	-
Overall improvements			45.3%		60.3%

initially and least finally. /tʃ/ shows more errors initially and finally, and /θ/ shows more errors medially and finally. /w/ and /f/ only have errors medially, /m/ only has errors finally and /h/ shows no errors at all.

The order of difficulty is similar to table 4, with the ten most difficult phonemes being /ð/, /z/, /d/, /ʒ/, /dʒ/, /θ/, /v/, /g/, /l/ and /j/, in this order.

Table 7 shows the improvements in the second and third tests, showing the slightly changed order of difficulty. The improvement

there is little relation between the difficulty and improvement
of the consonants except that two of the less difficult ones,
/p/ and /w/ improved 100%. To a certain extent, the improvement
percentage was probably influenced by the fact that I spent
more time teaching the difficult phonemes to the students
than the less difficult ones.

Nguyen Dang Liem, in his phonological contrastive analysis
of English and Vietnamese (1970 p.31) shows that the most
difficult consonants for these people to recognise in contrast
are as follows: /dʒ/   /tʃ/

/b/	/p/	/j/	/f/
/ð/	/θ/	/z/	/s/
/g/	/k/	/d/	/t/

Certainly, I have found that the most difficult phonemes to
pronounce are included in this list, excepting /p/ and /b/
which he finds among the most difficult. Consequently, there
is a relationship between the recognition of sounds and the
ability to pronounce them.

S.V. people have more difficulty in pronouncing voiced
consonants than unvoiced (see tables 5 and 6) and I
found that insufficiently aspirated phonemes were hardly
noticable to me. Phonemes that were not voiced enough
were /θ/ replacing /ð/ 34%, /s/ replacing /z/ 30%, /t/
replacing /d/ 25%, /d / replacing /t / 25%, /f/ replacing

266

Table 8
Table 8
Percentages of production problems in consonants initially and finally, according to Nguyen Dang Liem (1990 p.54, 69)

Consonants	Initial Errors	Final Errors	Consonants	Initial Errors	Final Errors
/p/	51.9	5.2	/h/	2.9	-
/t/	26.9	10.5	/v/	30.8	57.6
/k/	21.2	4.6	/ð/	46.2	76.9
/b/	15.4	79.5	/z/	34.6	61.5
/d/	3.8	42.3	/ʒ/	-	69.2
/g/	38.5	80.8	/l/	2.9	10.1
/tʃ/	20.0	32.3	/m/	0	7.8
/dʒ/	69.2	76.9	/n/	1.9	25.6
/f/	1.9	26.9	/ŋ/	-	30.7
/θ/	57.7	43.1	/w/	2.9	-
/s/	15.4	15.4	/r/	40.4	23
/ʃ/	28.2	36.5	/j/	30.8	-

/v/ 19%, /s/ replacing /ʒ/ 17%, /p/ replacing /b/ 11% and /k/ replacing /g/ 11%.

Table 8 shows the analysis of production problems in initial and final positions according to Nguyen Dang Liem (1970, p.54, 69). On the whole, my analysis is in agreement with Liem, but it is of interest to comment that he hears a large percentage of unaspirated /p/ and /b/, which I do not. I have possibly overlooked some of these difficulties as 'borderline' pronunciations that could perhaps be excepted. In phoneme /d/, I hear a large percentage of /t/ initially, while Liem hears a somewhat lower percentage of /ð/. In final /g/, Liem hears a much greater percentage of /k/ than I do. In /tʃ/, Liem hears errors of /ʃ/ and I hear /dʒ/ and /f/. I hear more errors replacing /z/ initially and Liem hears more finally. As well as this, I hear less errors replacing /r/ initially and more finally than Liem. One explanation for these differences

could be that Liem's hearing is influenced by his own Vietnamese
to a certain extent and another could be that his analysis
included people from different parts of Vietnam. Certain errors
such as the Northern Vietnam replacement of /n/ for final
/l/, do not occur in my analysis.

8.4 Errors and improvements of subjects and their self-assessment
Table 9 shows the overall error percent for each subject in
the first test (not including added phonemes). They ranged
from subject number six with 20% to subject number nine with
9%. The maximum improvements were gained by subjects number
seven and four with 51% and the minimum improvements by subject
number nine with 25%. It is interesting to note that the two
subjects who gained the most improvements were brother and

Table 9
**Percentage of students' errors and improvements in first test and
self-assessment of pronunciation abilities**

	Students									+
	6	5	8	7	4	3	1	10	2	9
Errors	Error per cent in first test									+
Students' self-assessment	20	17	16	15	15	14	13	13	13	6
very good										
good				✓		✓				✓
acceptable	✓	✓	✓		✓		✓			
bad								✓	✓	
very bad										
Improvements	Per cent of error improvement									
Students' self-assessment	37	40	40	51	51	35	44	38	33	25
very much										
much	✓	✓		✓	✓	✓				✓
somewhat			✓				✓	✓	✓	
not much										
not at all										

268

sister, indicating that they may have given each other some
mutual encouragement, and subect number nine, the subject
with the least errors showed the least improvement. Otherwise
there seems to be no correlation between the initial number
of errors and the overall improvements of the subjects.

The results of the subjects' questionnaire appeared to be
very subjective and indicated that on the whole, they were
not able to clearly assess their pronunciation abilities.
The three subjects with the most errors thought their
pronunciation was acceptable and two of the subjects with
the least errors believed their pronunciation was bad. Only
the subject with the minimum errors was accurate in her
assessment that she was good, but perhaps she may not have
been so accurate in her assessment that she had improved much,
when in fact she had improved less than the others. It was
encouraging to see that six of the subjects believed they
had improved much, and four believed they had improved somewhat.

CHAPTER 9

THE APPROXILECT

9.0 Introduction

This chapter describes the approxilect spoken by S.V. speakers
of A.E. and summarises and discusses the most usual differences
from A.E.

9.1 Description of vowels in the approxilect

In the approxilect spoken by S.V. speakers of A.E., all the
vowels and diphthongs exist (see table 3) although they are
sometimes not quite correctly pronounced. There are no errors
recorded in the tests in the cases of /aː/, /a/, /ɜː/, /ɔ/,
/ɔɪ/, /ɪə/, /ɛə/ and /ʊə/. There is a tendency to shorten
some vowels and diphthongs (see p.222-9), as in the cases
of /iː/ which is shortened 23%, /e / 21%, /uː/ 15%, /o / 10%,
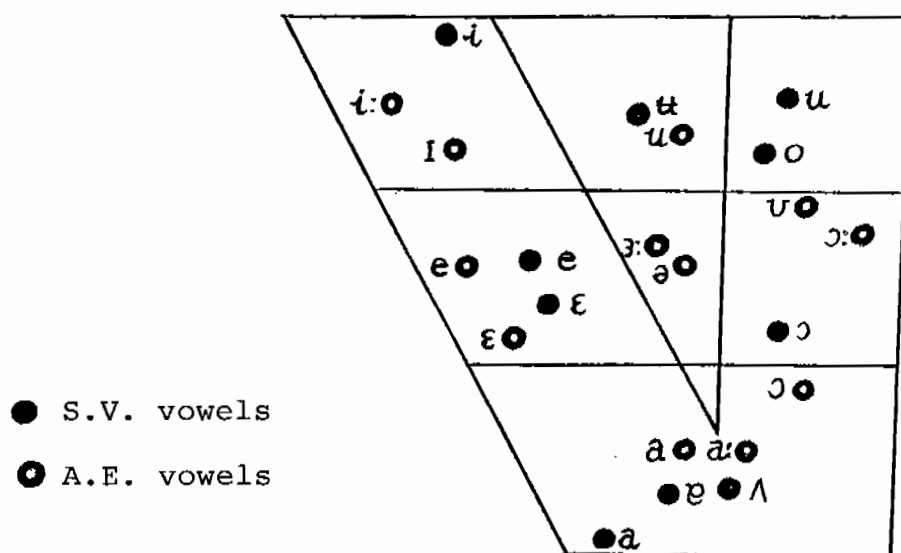/a / 5%, / / 2% and /a / 1%.

FIGURE 1 Vowels of S.V. and A.E.

The first quadrilateral includes the vowels of A.E. and S.V.
in order to show the relative positions used in the two languages
(see fig.1).The second quadrilateral includes the most common
quality of the approxilectal phonemes, showing the typical
approxilect. In the case of /i:/, two phonemic qualities have
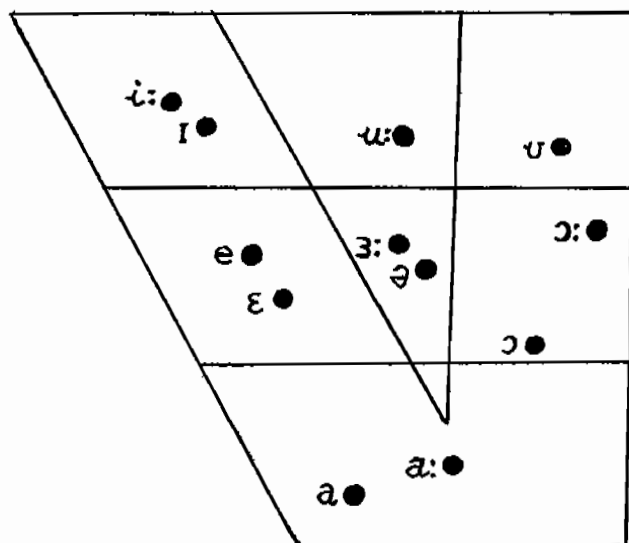been taken into account (see fig.2).

FIGURE 2: <u>Vowels of the approxilect of A.E.</u>

Table 1 (see below) shows the vowels used in the approxilect
of A.E. and the empirically corresponding S.V. vowels. These
show little difference in quality, but due to interference
from the source language, there is a general velarisation.
The vowel /i:/ is shortened to /i/, /ɔ:/ is sometimes shortened
to /o/, and /e/ and /ɛ/ are sometimes shortened and pronounced
towards the back of the mouth.

A.E.	Approxilect	S.V.
beat /i:/	/i:/ /ɪ/	đi /i/
bit /ɪ/	/ɪ̱/	đi /i/
bet /e/	/e̱/	đê̂ /e/
bat /ɛ/	/ɛ̱/	
part /a:/	/a̯:/	ba /a/
but /a/	/a̯/	ba /a/
apart /ə/	/ə/	mơ /ə/
bird /ɜ:/	/ɜ:/	
pot /ɔ/	/ɔ̱/	cô̂ /o/
port /ɔ:/	/ɔ̱:/	
put /ʊ/	/ʊ̱/	ngu /u/
boot /u:/	/u̱:/	ngu /u/

Table 1: <u>Approxilect related to empirically corresponding</u>

   <u>vowels of S.V.and A.E.</u>

9.2 <u>Description of consonants in the approxilect</u>

In the approxilect, all the A.E. consonantal phonemes exist
(see table 2), although they are sometimes not quite correctly
pronounced. However, they are not represented as often as
they should be in words, since they are sometimes replaced
with incorrect A.E. phonemes or with S.V. approximations.
They are also omitted, particularly in clusters and in medial
and final positions (see p.86-220 for details of these).

Omissions of /d/ occur 16%, /v/ and /θ/ 9%, /ð/ and /n/ 8%,

Australian English consonants (columns) × **Approxilectal consonants** (rows)

Approx \ AE	/p/	/b/	/t/	/d/	/k/	/g/	/tʃ/	/dʒ/	/f/	/v/	/θ/	/ð/	/s/	/z/	/ʃ/	/ʒ/	/h/	/m/	/n/	/ŋ/	/l/	/r/	/j/	/w/
/p/	93																							
/b/	6	88																						
/bʔ/		1																						
/t/			86	25				2			20	2												
/d/			5	57				3			1	10												
/dʔ/				1				2				1												
/k/					86	11																		
/kʔ/					1	1																		
/g/					5	74		25																
/bt/						8	92	3				1												
/tʃ/							3	60						3		2								
/dʒ/								1								9								
/f/									97	19									1					
/v/										71														
/θ/											69	34						1						
/ð/											1	44												
/s/								1				1	91	30	8	17								
/z/								1					2	56		15								
/ʃ/								2					2	1	92	57								
/h/																	100							
/m/																		97	1					
/n/																		1	90	5				
/ŋ/																			1	84				
/l/																					74			1
/r/																					18	83		
/t/																						16		
/j/																					5		82	
/ñ/																				10				
/w/																					2	1	7	97
over-articulation																								
added phoneme							2	2					1	2								2		
/ø/	1		3	16	4	5		2				2	1	1		2		1	9	10		2	7	1
other	1		6	1	4	1	2	2		1	1	1	3	5		5		1	1	1	2	1	2	1

/l/ 8%, /j/ 7%, /t/ 6%, /k/ 4% and /s/ 3%. A.E. phonemes used in the wrong position are /t/ as a variphone of /θ/ 20%, /ʋ/ as /l/ 18%, /z/ as /ʒ/ 15%, /d/ as /ð/ 10%, /b/ as /p/ 6% and /g/ as /k/ 5%. /ŋ/ is over-articulated as /ŋg/ 10%. Added phonemes in the approxilect are /g/ 5%, /k/ 4%, /t/ 3%, /s/ 4% and /z/ 4%. Interference from the source language causes the substitution of S.V. /ɣ/ for /g/ 8% and S.V. /r̃/ for /r/ 16% (see table 2).

As in the case of the vowels, voiced consonants tend to be velarised and pronounced too far back in the mouth due to influence from the source language. Other results of interference are that consonants are often not articulated strongly enough and are either not voiced, or else not voiced enough (as in /d/ becoming /t/).

As the airflow in S.V. tends to come out through the nose, there is also a tendency to not release enough air through the mouth resulting in a lack of clarity between voiced and unvoiced plosives. There is also a lack of contrast between the voiced and unvoiced fricatives and affricates, causing difficulty for the listener to be sure of the intended target phoneme as in confusion of /s/ with /ʃ/. Other problems occur such as /s/ being confused with /ʒ/ due to the palatalisation of the /s/ phoneme in Vietnamese, /r/ being trilled due to interference from the S.V. retroflexive /r/, and /l/ becoming /ʋ/ in medial and final positions due to this phoneme not

274

occurring in these positions in Vietnamese.

9.3 Errors not able to be predicted

In the approxilect, predictions of the errors (chapter 4) were more than 90% accurate. However, certain errors were not able to be predicted such as in the cases of hyper-corrections and over-articulations (see p.63) where subjects over-compensate their pronunciation in an attempt to speak 'correctly'. Other pronunciation errors that were not able to be predicted were those that were due to the incorrect reading of words, and to odd permutations of phonemes occurring in consonant clusters. Although it was predicted that consonants would be omitted in clusters due to them not occurring in Vietnamese, many omissions were not able to be predicted.

/dʒ/ was a phoneme that presented great difficulty for the subjects and showed many variants that were not able to be predicted such as /t/, /k/, /g/, /z/ and /ʒ/. Other such errors were /tʃ/, /dʒ/, and /s/ replacing /ʒ/, /tʃ/ and /s/ replacing /ð/, /d/ and /ʒ/ replacing /j/, /s/ replacing /m/, /p/ replacing /f/, /ʃ/ replacing /z/ and /n/ replacing /l/. It can be seen that the replacements have at least one feature in common with the correct sound. Apart from these, there were numerous random more or less isolated replacements that were not able to be predicted (these are analysed in detail in chapter 5).

275

9.4 Summary of first language interference

Due to Vietnamese not having any phonemic contrast involving long and short vowels (Huynh, 1989, p.174) and the greatly shortened 'bound' vowels (see p.286), /iː/, /e/, /ɜː/, /ɔː/ and /uː/ are often shortened, particularly in medial position (for details, see chap.5). Conversely, I have found only one hyper-correction where /a/ is lengthened. Due to S.V. having monosyllabic words, multisyllabic words can sometimes be shortened by omitting /e/, /a/ and /ə/ initially or by omitting syllables in other positions.

Although there are many diphthongs in S.V., only a few correspond to those in English. /aɪ/, /eɪ/, /aʊ/ and /oʊ/ also become shortened in medial position.

There are a very limited number of consonants occurring in final position in S.V. and no consonant clusters (Huynh, 1989, p. 174). There are less voiced consonants as well as a lack of contrast between voiced and unvoiced consonants as there is in English, meaning that there is a general difficulty in enunciating voiced consonants sufficiently. As well as this, there is confusion between them, resulting in some hyper-corrections of unvoiced phonemes to voiced phonemes.

The voiced plosives /b/, /d/ and /g/ are frequently not voiced or not sufficiently voiced, particularly in clusters as well as medially and finally .

276

The voiced fricatives /v/, /ð/ and /ʒ/ tend to be unvoiced

in all positions but moreso medially and in clusters, and

the affricate /dʒ/ is frequently insufficiently voiced in

all positions.

In the process of learning to voice /t/, /d/, /v/ and /z/,

there are some hyper-corrections occurring as over-articulations

in final position. /dʒ/ is also often replaced with /ʒ/ in

the learning progression. As /ŋ/ occurs only initially in

S.V., it has a few overarticulations occurring medially and

finally, possibly accentuated by misunderstood orthography.

Other forms of interference occur in /θ/ becoming /t/ and

/ð/ becoming /d/ in all positions. In other words, they use

the dentals existing in their own language, although these

are not fricative. What appears to be an /ŋ/ occasionally

replaces /n/ medially in clusters as well as finally, could

be due to the speakers generally articulating more to the

back of the mouth. Also, /v/ or occasionally /ŋ/ replace lateral

/l/ in positions other than initial, which is certainly due

to the fact that there is no final /l/ in S.V. Continuant

/r/ is replaced with the S.V. retroflex /r/, particularly

in medial position, and semi-vocoid /j/ is pronounced as /d/

or hyper-corrected to /dʒ/ initially. /j/ only occurs medially

as a semi-vowel in S.V. triphthongs. Occasional hyper-corrections

of /n/ and /k/ occur in medial position.

There is another kind of hyper-correction caused by misunderstood grammar which results in /t/ being replaced with /s/ and /s/ being added in final position and occasionally medial (see p.239). Final /t∫/ or /dʒ/ can also be replaced with /s/, but this may not be due to misunderstood grammar.

Due to difficulties in pronouncing clusters, there are omissions, mainly in the last segment of the clusters in final position. These omissions are due to first language interference because there are no clusters in the source language, and final consonants are unreleased. I must admit, however, that I am unclear as to why there are no omissions in the exceptions mentioned. In clusters containing three consonants, /t/, /d/, /s/ and /z/ are the most frequently omitted, particularly in final position.

9.5 <u>Error classes in vowels and diphthongs</u>

With 17 occurrences, EC4 (replacement with similar pronunciation, see p.63) is the largest error class in vowels and diphthongs. These replacements mostly consist of shortened vowel phonemes. EC1 (misreading, see p.64) occurs seven times and is the second largest. It also consists of shortened vowel phonemes. There are only two occurrences of EC1 (omission, see p.63) and two of EC3 (over-articulation, see p.63).

9.6 <u>Error classes in consonants</u>

In table 4 the relative sizes of error classes of consonants

can be seen in word position. (See pages 63 and 64 for
descriptions of error classes.) As can be seen, some error
classes are large and others are small. EC4 (replacement)
is the largest with a total of 163 members and the smallest
is EC8 (permutation) with only five members. In classes, there
are more members in medial word position, except in the case
of EC3 which has more members finally.

	Initial	Medial	Final
EC1 (omission)	3	38	25
EC2 (unreleased)	–	8	1
EC3 (over-articulation)	–	6	13
EC4 (replacement)	39	75	49
EC5 (replacement)	1	2	–
EC6 (added phoneme)	3	12	10
EC7 (misreading)	–	3	2
EC8 (permutation)	–	5	–

Table 2: Relative sizes of error classes of consonants shown
in word position

9.7 Error patterns in consonant clusters.
In consonant clusters of two phonemes (see p.135-81) the most
common error patterns are described in order of frequency
of occurrence.

The most common error pattern ab→b occurs seventeen times

279

in the sixty consonant clusters when the first phoneme in
the cluster is omitted. These mostly occur when the cluster
is in final word position, but also occurs medially when plosives
or fricatives are omitted before an /s/ and the /s/ is
maintained. Other examples occur when

/s/ and /z/ are omitted before /p/, /d/ and /m/ finally
and medially,

/n/ is omitted before /t/, /tʃ/ and /s/ finally,

/l/ is omitted before /t/ in final clusters.

Error pattern ab→ac also occurs 17 times and is either unvoiced
or hyper-corrected. It occurs in all positions when

/b/ becomes /p/ before /l/ or /r/ initially,

/g/ becomes /k/ before /r/ or /l/ medially,

/z/ becomes /s/ before /m/ or /n/ medially,

/f/ becomes /v/ before /s/ finally.

Hyper-corrections can occur in all positions when

/p/ becomes /b/ before /l/ initially,

/t/ becomes /d/ before /r/ initially,

/k/ becomes /g/ before /w/ initially,

/t/ becomes /d/ before /n/ medially,

/f/ becomes /v/ before /s/ finally.

Error pattern ab→cd occurs nine times where ab is unvoiced when

/bd/, /dz/, /vz/, /ðd/ and /ðz/ become unvoiced finally,

/br/ becomes /pr̆/ medially,

/ʃr/ becomes /s⁻r̃/ initially and medially.

Error pattern ab→ac occurs eleven times, mainly in final position when

/l/ becomes /ʊ/ after /k/ and /g/ finally,

/θ/ becomes /t/ after /f/ and /n/ finally,

/dʒ/ becomes /tʃ/ after /n/ in finally,

/tʃ/ becomes /s/ after /k/,

/s/ is unvoiced after /n/ medially.

Error pattern ab→c occurs fourteen times and is mainly a problem of not voicing fricatives and affricates a and omitting /t/, /d/, /s/ and /z/ in final position. Hyper-corrections of a occur when unvoiced dental plosives become voiced before /n/.

Error pattern ab→a occurs fifteen times when the last phonemes /t/, /d/, /s/ and /z/ disappear after fricatives and affricate /dʒ/ in medial position.

In consonant clusters of three phonemes (see p.181-220) error patterns are described in order of frequency of occurrence. The most common error pattern abc→ab occurs ten times in the thirty-six consonant clusters. They all occur in final position when final /θ/, /t/, /d/ and /s/ are omitted.

Error pattern abc→ac occurs fourteen times mostly in final position when

/t/, /s/, /k/, /p/, /f/, /tʃ/, /g/ and /θ/ are omitted after /k/, /s/, /m/, /n/ and /l/ and before /s/, /θ/, /t/ and

and /r/ finally,

/t/ is omitted after /s/ and before /r/ medially,

/g/ is omitted after /n/ and before /l/ medially.

Error pattern abc→dbc occurs seven times and a is l in final position when

/l/ becomes /ʊ/ before /pt/, /ps/, /ts/, /ks/ and /st/,

/l/ becomes /n/ before /θs/,

/l/ becomes /ʒ/ before /ms/ finally.

Error pattern abc→bc occurs ten times in final position mostly as omissions of /l/ and /s/ when

/k/ is omitted before /sθ/,

/s/ is omitted before /pt/, /ps/ and /kw/,

/l/ is omitted before /pt/, /ps/, /kt/, /ks/, /θs/ and /md/.

Error pattern abc→abd occurs eight times in all positions but mostly final and c is replaced with another phoneme when

/r/ becomes /r/ after /st/ and /sk/ initially,

/w/ becomes /r/ after /nt/ medially,

/t/ becomes /s/ after /sk/ and / k/ finally,

/s/ becomes /t/ after /sk/ finally,

/t/ becomes /ɪ/ after /mf/ finally,

/t/ becomes /ə/ after /ntʃ/ finally.

Error pattern abc→bd occurs three times in final position when

/l/ is omitted before /k/ and /m/,

/t/ becomes /s/ after /k/,

/d/ is not voiced after /m/,

/z/ is not voiced after /m/.

It can be seen that the omissions or changes in quality of the consonants in clusters are generally parallel to those that also occur when a consonant is pronounced without being in a cluster.

9.8 Conclusion

In both the vowels and the consonants used in the approxilect spoken by S.V. speakers of A.E., no general universal principle could be established to explain the replacement errors and omissions. My study does not support the explanations of Johansson (1973) who claims that there are universal errors in second language vowels being closer to the centre than they should be in the quadrilateral (see fig.2). Errors were, on the whole, predictable as being caused by direct interference from the first language. There were also errors resulting from misunderstood orthgraphy and grammar, but these did not occur frequently.

CHAPTER 10

ACOUSTICAL ANALYSIS OF CHECKED AND UNCHECKED VOWELS.

10.0 Introduction

There are two kinds of vowels in Vietnamese, and it would
seem to be of value to do a short comparative acoustical study
of them. The most usual type of vowel in Vietnamese is
"unchecked" (unbound), and may or may not have a consonant
following. There are nine of these vowels, /i/, /e/, /ɛ/,
/a/, /ɔ/, /ɘ/, /o/, /u/, /ʉ/ (described in chapter 3).

The other kind of vowel is "checked" (bound), and is always
followed by a consonant. There are only two of these, /ɛ/
(as in năm /nɛm/) and /ʌ/ (as in câm /kʌm/) (described in
chapter 3).

As the nine unchecked vowels are similar in intensity, frequency
and duration, they have been plotted together in order to
obtain their average "shape". In the same way, the two unchecked
vowels, which are similar to each other, have been plotted
together so that the contrast between the two kinds of vowels
can be easily seen (see figs.1&2).

10.1 Intensity

On average, unchecked vowels begin at minus 5 dB, reaching
an intensity peak of minus 3 dB at 0.05 second where they
remain for a further 0.05 second before finishing at 0.35

284
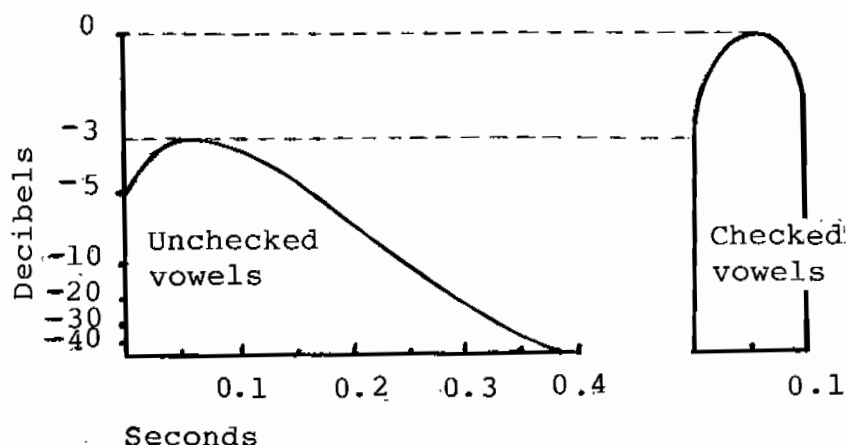
FIGURE 1: Average intensity of unchecked and checked vowels

second. In contrast to these, checked vowels begin at minus
2 dB with an intensity peak of zero dB at 0.05 second before
falling to minus 3 dB and finishing at 0.1 second.

Unchecked vowels have a somewhat lower intensity than checked.
Both kinds of vowels have a peak after about 0.5 second. The
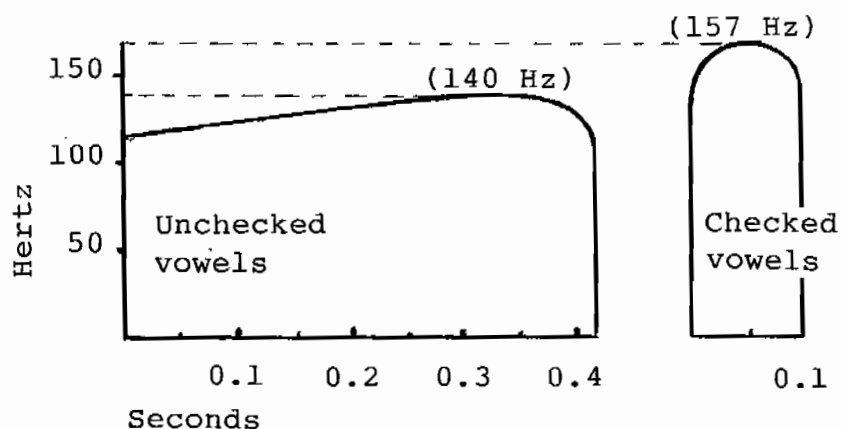longer unchecked vowels peak closer to the beginning of the
vowel.

FIGURE 2: Average frequency of unchecked and checked vowels

10.2 Frequency

On average, unchecked vowels have a fairly consistent frequency
of 140 Hz, contrasting with checked vowels which have an average

frequency of about 157 Hz. The checked vowels are therefore
higher in frequency although their frequency courses are similar
in that both are fairly constant(see fig.2).

10.3 Duration

The unchecked vowels range from /i/ at 0.37 second to /ɛ/
at 0.45 second, averaging a duration of 0.41 second. In contrast
to these, the checked vowels range from /ʌ/ at 0.08 second
to /ɐ/ at 0.11 second, averaging a duration of 0.1 second.
The checked vowels are considerably shorter, being almost
a quarter of the length of the unchecked vowels.

10.4 Spectrum

The front unchecked vowels /i/, /ʉ/, /e/ and /ɛ/ have first
formants ranging from /i/ and /ʉ/ at 300 Hz, to /ɛ/ at 500
Hz. The second formants range from /ʉ/ at 1700 Hz and /ɛ/
at 1900 Hz to /i/ at 2517 Hz. The gaps between the formants
of these front vowels range from /ɛ/ and /ʉ/ with 1400 Hz
to /e/ with 1605 Hz and /i/ with 1663 Hz (see figs.3&4).

The back unchecked vowels /a/, /ɔ/, /o/, /u/ and /ə/ have
first formants ranging from /o/ and /u/ at 300 Hz to /a/ at
1000 Hz. The second formants range from /o/ and /u/ at 900
Hz to /a/ at 1500 Hz. The gaps between the formants of these
back vowels are closer and range from /a/ with 500 Hz to /o/
with 800 Hz (see figs.5&6).

FIGURE 3: Spectogram of /i/ in ḍi /ḍi/ and /ʈ/ in nuṛ /nʈ/.

/d e/ /ɛ S/

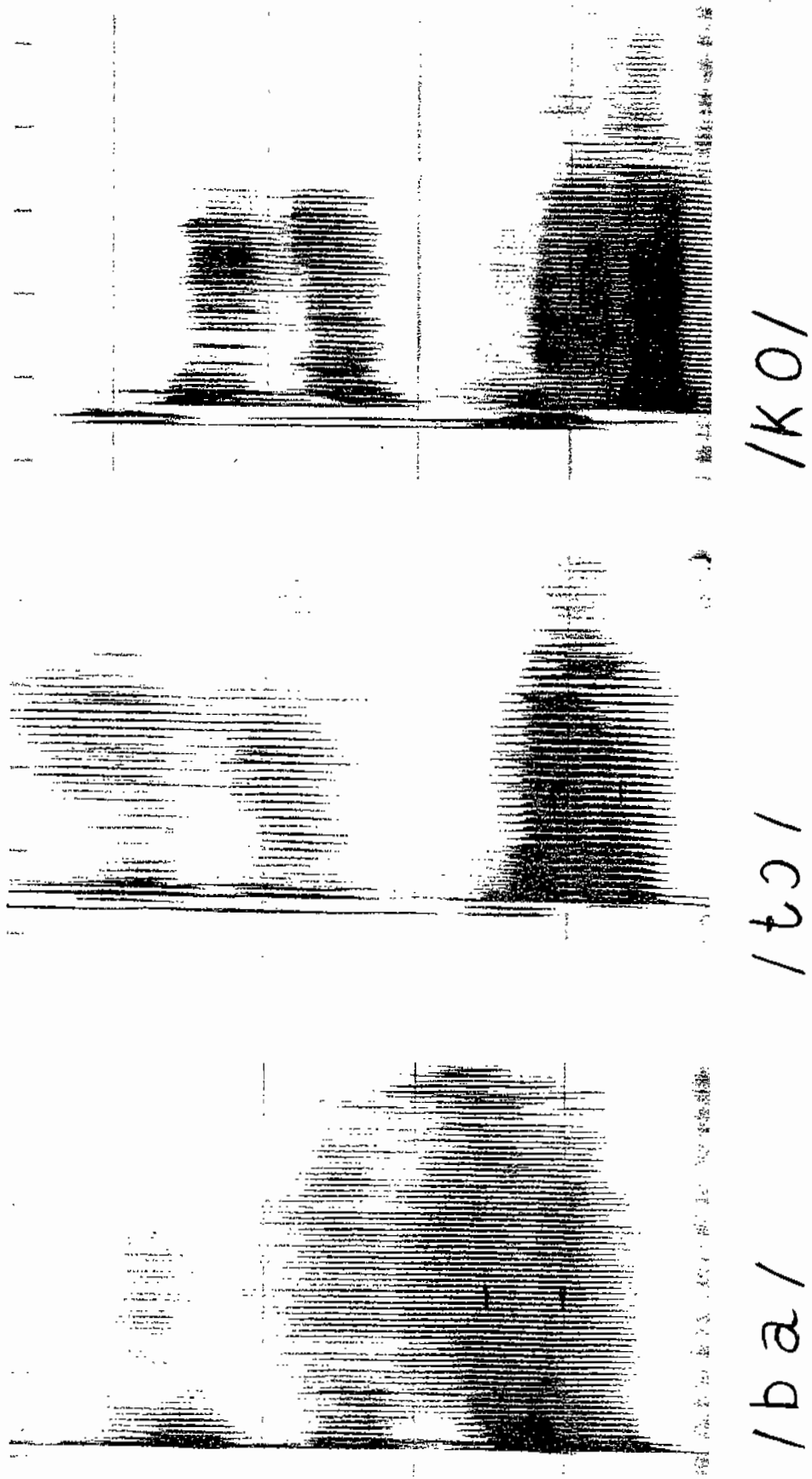FIGURE 4: Spectogram of /e/ in d̃ẽ /de/ and /ɛ/ in xe /sɛ/.

/ba/ /a/   /tɔ/ /ɔ/   /ko/ /o/

FIGURE 5: Spectogram of /a/ in ba /ba/, /ɔ/ in to /tɔ/ and /o/ in cô /ko/.
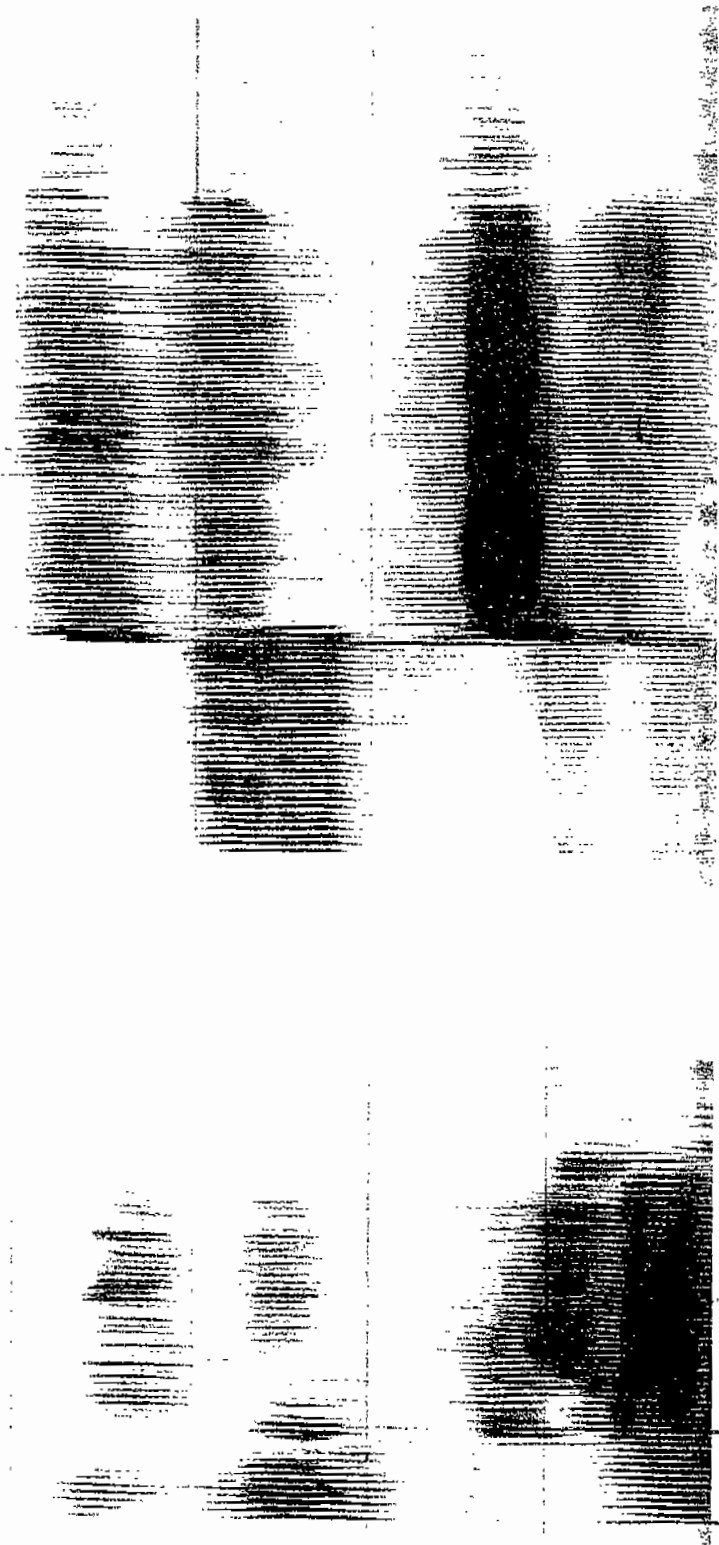
289

/ŋ u /   / ə m /

FIGURE 6: Spectogram of /u/ in ngu /ŋu/ and /ə/ in mǒ /əm/.

290

The two checked vowels have closer formants with gaps similar to the back unchecked vowels, but a somewhat higher frequency than the other nine vowels, with Fl of /ʌ/ being 667 Hz and /ɐ/ being 1100 Hz. F2 of /ʌ/ is 1450 Hz and /ɐ/ is 1557 Hz. The gap between the two formants of /ɐ/ is only 457 Hz and the gap for /ʌ/ is 793 Hz which is almost double, indicating a clearer sound (see fig.5).

As the checked vowels do not correspond in quality with either of the unchecked vowels, no general conclusion could be drawn on the formant frequencies.

Comparing formant bendings for the two kinds of vowels would require an extensive acoustic study which has been considered to be outside the scope of this study.

10.5 Conclusion

The most remarkable difference between the two kinds of vowels is that checked vowels are almost a quarter of the duration of unchecked vowels. Although both kinds of vowels have an intensity peak after 0.5 second (which means that the peak comes earlier in the long vowels), checked vowels have higher intensity than the longer, unchecked vowels. Both kinds of vowels have a fairly constant course but checked vowels have higher frequency, and closer formants than do unchecked vowels.

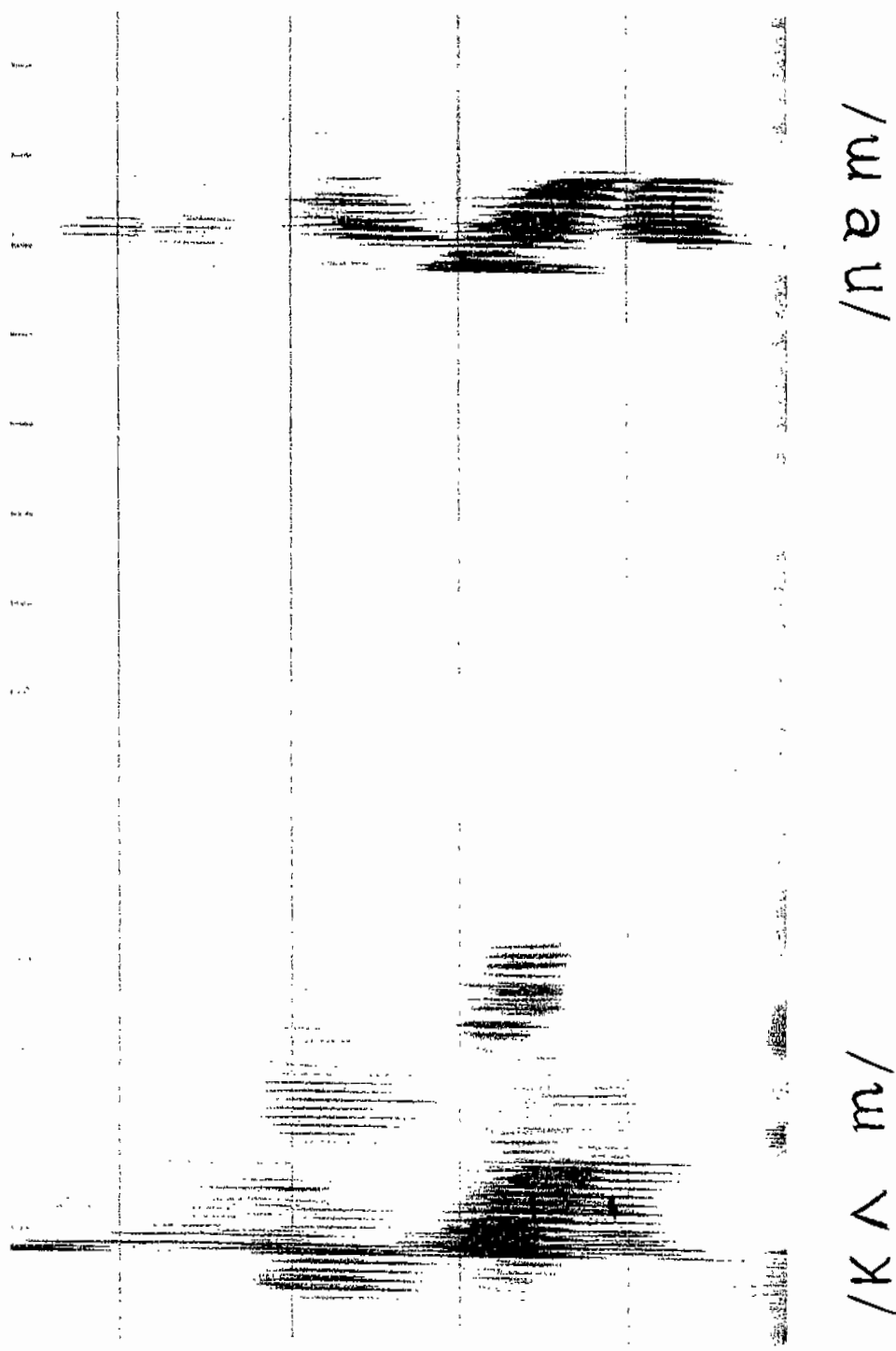As can be seen (see fig.6) the distribution of the vowels

291

/ɯ ə u/   /K ʌ ɯ ʌ/

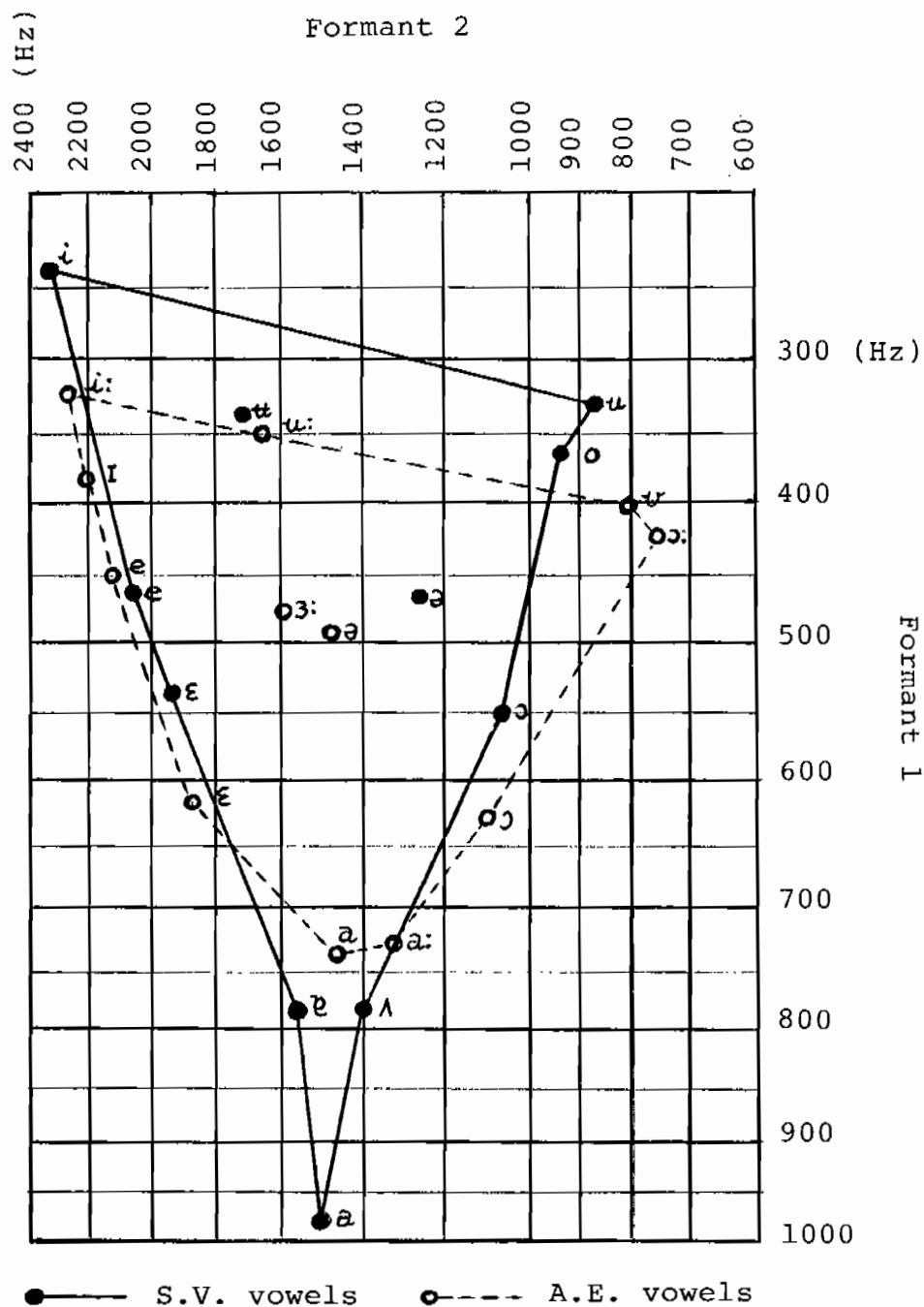FIGURE 7: Spectogram of checked vowels /ʌ/ in cầm /kʌm/ and

/ɐ/ in nắm /nɐm/.

FIGURE 8: Formant chart showing the vowels of S.V. and A.E.

triangular in shape, but the Australian /i/, /u:/, /ʊ/ and /ɔ:/ are more retracted than the S.V. equivalents. The S.V. /ɐ/ and /ʌ/ are more retracted than the A.E. /a/ or /a:/, the nearest approximations being /e/, /u/, /ɔ/, /ə/ and /ɛ/.

293

SUBJECTS

Subject 1

Aged 32, male, born and educated in Saigon, but with a slightly
North Vietnamese accent. In Vietnam he attended a special
high school where he spoke French as a first language. He
studied English as a subject for five years to year 11 .Following
year 12 he continued studying in Saigon university, majoring
in the French language. Prior to leaving Vietnam, this subject
studied for six months at home in his spare time, and after
arriving in Indonesia, studied for three hours a day for three
months before coming to Australia. After arriving in Australia
in 1985, he did a ten week full time on-arrival English course,
followed by 20 weeks of part time evening courses while working
in the day. He does not speak much English at work. Last year
he started studying part-time at university, but has had no
further English instruction. This subject has had no
pronunciation classes, and feels very shy about speaking English.
He speaks with a strong French Accent.

Subject 2

Aged 25, male, born and educated to year 12 high school in
Saigon where he studied French as a subject for six years.
This subject believes he has a North Vietnamese accent. After
finishing high school he went to study English for three nights
a week, one and a half hours a lesson, for two years before
starting university. At university he studied Russian as a

subject for two years from 1988-90. After arriving in Australia

in 1990, he studied in on-arrival English classes four hours

a day for twenty days. He has had no previous instruction

in pronunciation, and hasn't done any extra study himself,

yet was assessed by R.M.I.T. as A.S.L.P.R. 3. This young man

has very few pronunciation problems, and claims he has a natural

aptitude for languages, which I would certainly agree with.

Subject 3

Aged 27, male, born and educated to year twelve high school

in Saigon where he studied French as a subject for six years.

He also speaks a little Cantonese and Mandarin. This subject

started learning Enlish ten years ago in Thailand with a Canadian

instructor for two months, and then in Japan where he learned

English for two years from two instructors, one Vietnamese

and one Japanese, simultaneously while studying Japanese.

After that he studied on-arrival English in Melbourne for

one year, before repeating year twelve high school again.

He then gained admission to university where he received no

further English tutoring or classes. However, in 1988 he attended

a ten weeks advanced listening and speaking skills course

with the Council of Adult Education, which contained two

pronunciation classes.

This subject has the most diversified language background, as

well as being the one who expressed the least confidence in

his ability to pronounce correctly, even though in his profession

he regularly uses English at an advanced level. He believes

he has pronciation difficulties in his own language, tending

to confuse vowels as well as consonants, although he has no

difficulty with the tones. He also says he cannot "pick up"

tunes in songs easily.

Subject 4

Aged 25, male, born and educated to year 12 high school which

included nine years of Mandarin as a subject to year nine,

six months of French followed by one year of English (both

studied as an extra subject outside of school hours), followed

by two years of English as a subject to year 12. After finishing

high school he studied Mandarin for a further three years

for three hours a week at the same time as studying three

classes of English (13 hours a week) for three years, before

coming to Australia.

Upon arriving in Australia in 1988 he did four months of full

time English in migrant access classes which were really

intended for people who had been here for one year. He found

he could not speak or hear much at all in these classes which

were enormously difficult for him. Following this he studied

at a T.A.F.E. summer school for two months before starting

university. Here he studied three hours of communication as

a subject in first year, while studying a further eight months

of Mandarin at Saturday school. This is his final year of

university (third year) and he has just finished a two months

evening course of two hours,two nights a week advanced English.

Although he has not had any previous pronunciation classes,

he has relatively few problems in this area.

Subject 5

Aged 24, male, born and educated in Saigon, speaks with a South Vietnamese accent. He studied to year 10 in Vietnam where he had English as a subject from years six to ten. He arrived in Australia in 1985 where he attended a six months full- time English course before enrolling in year nine high school. He studied E.S.L. to year 12, but had no further English instruction. Presently he is enrolled in second year university. He also has had no prior pronunciation classes.Subject 2

Aged 27, female, born and educated to year 10 high school in Saigon, but believes she has a North Vietnamese accent. In 1980, she went to Indonesia where she studied very basic English for one year.On arriving in Australia, this subject studied years ten, eleven and twelve E.S.L. in high school before entering university where she received no further English tutoring or lessons. Since finishing her degree she has been speaking English at a professional level in her workplace. This subject has very little problem being understood when she speaks English.

Subject 6

Aged 26, male, born and educated to year 12 high school in Saigon where he studied six years of English as a subject. He speaks with a South Vietnamese accent. After finishing high school in 1982, he continued studying English part time for two hours a week for another five years before coming

to Australia. After arriving in Australia he studied English

four hours a day for three months before gaining entrance

to university. He is now in third year but has received no

further help with English. He has had no previous instruction

in pronunciation.

Subject 7

Aged 27, female, born and educated to year 10 high school

near Saigon, studied six years of both English and Mandarin

as subjects and claims she speaks with a South Vietnamese

accent. She came directly to Australia in 1987 where she

completed a one month English summer school course prior to

doing a year of T.O.P., including E.S.L. as a subject. The

next year she entered university where she studied spoken

and written English language as a subject in first year. She

is presently in second year university, but does not receive

any further English instruction. She has had no prior help

with pronunciation.

Subject 8

Aged 27, male, born and educated in Saigon, speaks with a

South Vietnamese accent. At high school he studied English

(mainly grammar) for three years for about three hours a week.

He also studied a little Cantonese at school. In 1987 he used

his Cantonese and English while working in the refugee camp

in Hong Kong, but he is mainly self taught. After arriving

in Australia, he worked for a few months as a social worker

where he was able to practice his English while studying from
two to four hours English a week, at night school. In 1988
he enrolled in T.O.P. where he studied E.S.L. In 1989 he started
university and attended written and oral communication, a
minor subject in first year. He has received no prior instruction
in pronunciation.

Subject 10

Aged 36, male, born and educated in Saigon, speaks with a
slight mid-Vietnamese accent because his parents come from
central Vietnam.

He studied English as a main subject to year 12 high school
for seven years, and French as a second language to year twelve.
After this, he studied English for reading as part of a subject
for three years, finishing this degree in 1978. after that
he had no further English until he arrived in Indonesia where
he only studied English for between one and two hours a week
for a few months. After arriving in Australia in 1983 he attended
a full-time on-arrival English course for three months before
enrolling at university. This was a grave mistake as he did
not have enough English, or enough money to continue. In 1990
he recommenced university part-time, but has had no other
English instruction, only picking it up along the way. He
has had no prior pronunciaion instruction. His attitude to
these classes has been very positive.

APPENDIX B

MATERIAL USED FOR AUDITORY ANALYSIS

<u>Vowels</u>	<u>Consonants</u>
/ɪ/ beat	/k/ cut
/ɪ/ bit	/g/ gut
/e/ bet	/tʃ/ chin
/ɛ/ bat	/dʒ/ gin
/aː/ part	/f/ fine
/a/ but	/v/ vine
/ə/ apart	/θ/ thin
/ɜː/ bird	/ð/ then
/ɔ/ pot	/s/ Sue
/ɔː/ port	/z/ zoo
/ʊ/ put	/ʃ/ mesh
/uː/ boot	/ʒ/ measure
/aɪ/ buy	/h/ hat
/eɪ/ bay	/m/ map
/ɔɪ/ boy	/n/ nip
/aʊ/ bough	/ŋ/ sing
/oʊ/ bow	/l/ light
/iə/ beer	/r/ right
/ɛə/ pair	/j/ yell
/ʊə/ poor	/w/ well
	vale
	fail

Consonants

/b/ BAT   DABBER

/p/ PAT   DAPPER   CAP

/t/ TAB   FATTER   PAT

/d/ DAB   ADDER   PAD

/k/ CAT   BACKER   SACK

/g/ GAG   MAGGOT

/tʃ/ CHAT   PATCHY   MATCH

/dʒ/ JAG   MAGIC   BADGE

/f/ FIG   JIFFY   TIFF

/v/ VAT   AVID   HAVE

/θ/ THIN   NOTHING   MYTH

/ð/ THEY   BATHER   BATHE

/s/ SIT   MISSILE   HISS

/z/ ZIP   PIZZA   FIZZ

/ʃ/ SHIP   FISHER   FISH

/ʒ/   VISION   ROUGE

/h/ HAT   AHEAD

/m/ MAIN   FAMOUS   FRAME

/n/ NET   BENNY   PEN

/ŋ/   SINGER   THING

/l/ LEG   TELLER   SELL

/r/ RED   BERET

/j/ YACHT   FOYER

/w/ WAIT   AWAY

/pl/	PLEASE	APPLAUD	APPLE
/bl/	BLACK	SUBLET	ABLE
/pr/	PROVE	APPROVE	
/br/	BREAK	ABBREVIATE	
/tr/	TRICK	ATTRACT	
/dr/	DRINK	ADRIFT	
/tw/	TWICE	ATWIRL	
/kl/	CLASS	ACCLAIM	TICKLE
/gl/	GLOSS	AGLOW	HAGGLE
/kr/	CRATE	ACROSS	
/gr/	GREY	AGREE	
/kw/	QUICK	ACQUIRE	
/sp/	SPEAK	ASPIRE	GASP
/st/	STAND	MASTER	FAST
/sk/	SKY	BUSKER	ASK
/sm/	SMILE	ASTHMA	POSSUM
/sn/	SNIFF	ASNARE	BOSUN
/zm/		COSMOS	CHASM	EXCUSE ME
/zn/		BUSINESS	POISON
/sw/	SWITCH	DISSUADE	
/ʃr/	SHRIEK	ASHRAM	
/spl/	SPLASH	DISPLAY	
/spr/	SPREAD	ASPRAY	
/str/	STREET	ASTRIDE	
/skr/	SCREW	DESCRIBE	
/skw/	SQUID	ASQUITH	

/pt/	OPTICS	JUMPED	
/bd/	ABDUCT	GRABBED	
/ps/	CAPSICUM	MAPS	
/bz/	ABSOLVE	RIBS	
/ts/	PATSY	SITS	
/dz/	MIDZONE	NEEDS	
/tʃt/		PITCHED	HE WATCHED IT
/dʒd/		TRUDGED	SHE DODGED AROUND
/nt/	POINTED	DON'T	
/nd/	SENDER	POND	
/nθ/	MENTHOL	TENTH	
/ns/	BOUNCER	ONCE	
/nz/	PANSY	SPOONS	
/ntʃ/	LAUNCHER	PAUNCH	
/ndʒ/	STRANGER	CHANGE	
/ft/	CRAFTY	LIFT	
/vd/		LOVED	SHE MOVED OVER
/fθ/		FIFTH	IT'S THE FIFTH ON THE RIGHT
/fs/		LAUGHS	HE COUGHS AT NIGHT
/vs/		MOVES	IT LEAVES ON SUNDAY
/θt/		BATHED	THEY BOTH TURNED AROUND
/ðd/		LOATHED	SHE CLOTHED US
/θs/		BATHS	WHO BATHS A BABY?

/ðz/		BATHES	SHE BATHES IN THE RIVER
/zd/	MAZDA	DOZED	
/kts/		FACTS	IT CONTACTS AT THIS POINT
/ksθ/		SIXTH	SIXTH AGAIN
/kst/		COAXED	HE COAXED US INTO IT
/mpt/	PROMPTED	PROMPT	
/mps/		LUMPS	SHE BUMPS IT EVERY TIME
/mft/		TRIUMPHED	THEY TRIUMPHED AGAIN
/mfs/		TRIUMPHS	THE TEAM TRIUMPHS AGAIN
/nθs/		MONTHS	I DID IT MONTHS AGO
/ntw/	ENTWINE		
/nkl/	ENCLOSE		
/ngl/	ENGLAZE		
/nst/		MINCED	HAVE YOU CONVINCED US
/ntʃt/		PUNCHED	HE CRUNCHED IT UP
/ndʒd/		LUNGED	HE LUNGED AT THE DOOR
/ŋkt/		BANKED	SHE THANKED US AGAIN
/ŋks/		SINKS	IT SINKS IN THE MIDDLE
/lpt/		HELPED	SHE HELPED US
/lkt/		SULKED	HE SULKED IN THE CORNER
/lps/		HELPS	IT HELPS US
/lts/		CULTS	THE RESULTS ARE HERE
/lks/		SULKS	SHE SULKS OVER SILLY THINGS
/lmd/		FILMED	THEY FILMED IT

304

/lmz/	FILMS	WATCH THE FILMS AGAIN
/lθs/	HEALTHS	SHOW ME THE HEALTH SIGN
/lst/	WHILST	SHE WILL STAY OVERNIGHT
/sps/	GASPS	HE LISPS A LOT
/sts/	GUESTS	THE TOURISTS ARE HERE
/spt/	GASPED	HE JUST GASPED AND RAN
/skt/	WHISKED	THE POLICE FRISKED HER
/sks/	TASKS	PUT THE MASKS ON

NUMBERS

ONE

TWO

THREE

FOUR

FIVE

SIX

SEVEN

EIGHT

NINE

TEN

ELEVEN

TWELVE

THIRTEEN

FOURTEEN

FIFTEEN

SIXTEEN

SEVENTEEN

EIGHTEEN

NINETEEN

TWENTY

FRIENDSHIP

Friends play an important part in our lives, and although we may take the fact of friendship for granted, we often don't clearly understand how we make friends.

While we may get on well with a large number of people, we are usually friends with only a handful.

Initially, much depends on how people meet, and on favourable first impressions.

As we get better acquainted, we take into account things like age, race, physical attractiveness, personality, economic and social status, intelligence and so forth.

Although these factors are not of prime importance, it is more difficult to relate to people when there is a marked difference in age and background.

REFERENCES

Bernard, J.R.L. (1963) <u>An extra phoneme of Australian English.</u>
   AUMLA 20, p. 346-352.

Bernard, J.R. and Delbridge, A. (1980) <u>Introduction to</u>
   <u>linguistics, an Australian perspective.</u> Australia: Prentice
   Hall.

Bửu, K. (1990) <u>Learning Vietamese, a guide to pronunciation.</u>
   Victoria: Vietnamese language and culture publications.

Corder, S.P. (1981) <u>Error analysis and interlanguage.</u> Oxford
   University Press.

De Francis, J. (1977) <u>Colonialism and language policy in Vietnam.</u>
   The Hague, Paris, New York: Mouton.

Gleason, H.A. (1969) <u>An introduction to descriptive linguistics.</u>
   London, New York, Sydney, Toronto: Holt, Rhinehart and
   Winston.

Hammarström, G. (1954) <u>Moderna språk.</u>

Hammarström, G. (1974) Review of Johansson, F.A., <u>Immigrant</u>
   <u>Swedish Phonology.</u> Lund 1973. In: <u>Phonetica 29</u>, p.253-5.

Hammarström, G. (1976) <u>Linguistic units and items.</u> Berlin,
   Heidelberg, New York: Springer Verlag.

Hammarström, G. (1978) <u>On linguistic correspondences and non-</u>
   <u>correspondences.</u> In: <u>Studia linguistica Alexandro Vacilii</u>
   <u>filio Issatschenko a collegis amicisque oblata.</u> Birnhaum
   et al. (eds), Lisse: P. de Ridder press, p. 155-160.

Hammarström, G. (1980) <u>Australian English, its origin and</u>
   <u>status.</u> Hamburg, Helmut Buske Verlag.

Krashen, S.D. (1988) Second language acquisition and second language learning. London: Prentice Hall.

Kühlwein, W. (1990) Language processes in contrast. English studies 2. Publication of the University of Luxembourg.

Lê, B.T. (1973) A contrastive study of Australian English and Vietnamese phonetics. Unpublished thesis for Master of Arts, Monash University.

Macneil, D. (1987) Teaching pronunciation to Vietnamese students. Melbourne: Adult Migrant Education Services.

Mannel, R.H. (1988) Some comments on Vietnamese phonetics and phonology. Unpublished paper with special reference to issues raised in the document by Macneil, D. (1988), Crossing the barrier: pronunciation activities for Vietnamese E.S.L. learners. Macquarie University.

Mitchell, A.G. (1970) The Australian accent. In: English transported. Essays on Australian English. W.S. Ramson (ed.), Canberra.

Moroney, M.J. (1956) Facts from figures. Penguin, England, p.338-340.

Mortimer, C. (1985) Elements of pronunciation. Cambridge University Press.

Nguyễn, D.L. (1970) A contrastive phonological analysis of English and Vietnamese. Vol.4, Canberra: Pacific Linguistics.

Odlin, T. (1989) Language transfer: cross-linguistic influences in language learning. Cambridge University Press.

Pilch, H. (1971) Some phonemic peculiarities of Australian English. In: Form and substance. Phonetic and linguistic

papers presented to Eli Fischer-Jorgensen 11th February 1971. L.L. Hammerich, R. Jakobson, E. Zwirner (eds.), Copenhagen, P. 269-72.

Snedecor, G.W. and Cochran, W.G. (1967) <u>Statistical methods,</u> Iowa State University Press, p.128-29.

Te, H.D., Chhim, S. and Luangpraseut K., (1989) <u>Introduction to Cambodian culture, Laos culturally speaking, Introduction to Vietnamese culture.</u> San Diego State University, p.174.

Thomson, L.C. (1959) <u>Saigon phonemics.</u> Language,xxxv, p.454 76.

Trim, J. (1956) <u>English pronunciation illustrated.</u> Cambridge University Press.

Vương, G.T. (1975) <u>Vietnamese in a nutshell.</u> Montclair, N.J.: Institute for Language Study.