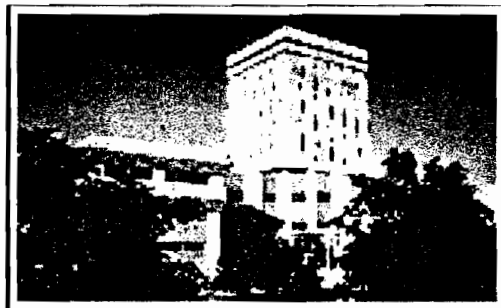


UNIVERSITE GASTON BERGER DE SAINT-LOUIS  
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UFR DE LETTRES ET SCIENCES HUMAINES  
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SECTION D'ANGLAIS



**THE PRODUCTION OF CONSONANT  
CLUSTERS OF ENGLISH BY WOLOF  
SPEAKERS : AN ERROR ANALYSIS**

Mémoire de Maîtrise

THL 2465

*Présenté par :*

**Abdou Diouf LÔ**



*Sous la direction de :*

**Pr. Mawéja MBAYA**  
Maître de Conférences

Année Académique 2000-2001

**THL  
2465**

**In The Name of Allah, The Merciful, The Most Gracious**

*I bear witness that there is no God but Allah and Prophet Mohamed*

*(peace be upon him) is his slave-servant and messenger.*

## **DEDICATION**

**I dedicate this work to my parents for education and prayers,**

**To my wife Awa Gueye for her love and support.**

**To El Hadji Abdourakhmane Gueye and family**

**But also:**

**To my younger brother Mouhamadou Bamba lo,**

**To all my family (Saer , Abasse, Djily, Lamine, Oumou etc.),**

**To my father and mother late El Hadj Malick lo and late Adja Mbéne Darou Lo .**

**To Iline Souané, Mame Maty Gueye and Sokhna Bao**

**To Pr Pape Ibra Samb, my cousin,**

**To all my friends,**

**To Moustapha Gaye, Mohamed Konaté, Bamba Ndiaye and Moussa Ndiaye my counsellors,**

**To all the teachers who ever taught me.**

## ACKNOWLEDGEMENTS

We endlessly thank **Allah** for life, health and care.

We are so thankful to **Pr Mawéja Mbaya** for his assistance, collaboration, orientations and advice. He has been truly wonderful in every respect. I pray God to give him and his family health, long life and peace. His high sense of human relationship and his fatherly collaboration have been a fundamental step in the realization of this difficult task.

We are indebted to the pupils of Malick Sall High School and their teachers (**Mr Cissé, Mr NGom, Mr Séne, Mr Samb, Mr Adramé Sow, Mr Sankharé**) for their free and friendly collaboration.

We are also thankful to my benefactor *M. Papa Dalla Wagué* and *Abdallah Ndiaye* who have been kind enough to type the work. By helping us they have won our respect and friendship.

We also thank our sister *Iline Souané* for her moral support, Ndéye Ténig Mbengue for her assistance and Oumar Sylla for the tape recorder.

Special thanks to **Khady Ndiaye**, secretary of the English department for her support.

We thank all those who have contributed to making this a better work than it would otherwise have been.

*Abdou Diouf Lô*

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## INTRODUCTION

The originality of languages lies in that each one of them displays a given sound system. Besides, they permit different syllable structures. Learners in their current bid for acquiring fluency in foreign languages encounter the difficulties that different sound systems may reveal. These difficulties are very often related to pronunciation. At this level, consonant clusters are said to constitute a major source of difficulty<sup>1</sup>.

This research work analyses the production of English consonant clusters by Wolof speakers. The work was based on a sample of fifty (50) Wolof learners of English. The latter were the pupils in 'Première l'; i.e. those pupils specialized in literature at Malick Sall high school at Louga, Senegal for the school year 2000-2001.

This is an analysis of the errors of the production of English consonant clusters by Wolof speakers. The goal of this work is to check if Wolof speakers learning English can satisfactorily pronounce English consonant clusters, e.g. groups of three, four consonant clusters, sequences of fricatives, plosives, etc. In other words, it aims at seeing how Wolof learners of English produce English consonant clusters.

The work includes two main parts. Part one deals with generalities, i.e. it gives a broad approach of consonant clusters in general and of English consonant clusters in particular. It surveys some important aspects of clusters. Part two is a fieldwork, it is supported by recorded data. It locates and analyses the errors of the learners, their distribution and their frequency. It also tries to explain the error causes and proposes solutions.

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<sup>1</sup> see Henry Adameczewski and Denis Keen Phonétique et Phonologie de l'Anglais Contemporain. Paris: Armand Colin, 1973 p120

**PART ONE: THEORETICAL APPROACH**

## **CHAPTER ONE**

### **I-CONSONANT CLUSTERS, A GENERAL APPROACH**

I-1 Definition

I-2 Consonant clusters

## **CHAPTER TWO**

### **II-ENGLISH CONSONANT CLUSTERS**

II-1-Within words

**II-1-1-Initial clusters**

**II-1-1-1-Description of initial clusters**

II-1-2-Final clusters

II-1-2-1-Description of final clusters

II-2-At word juncture

II-2-1-English syllable structure

**II-3-Assimilation and elision of consonants**

**II-4-Review of the previous studies**

## CHAPTER ONE

### I-CONSONANT CLUSTERS, A GENERAL APPROACH

#### I-1-Definition

J.C. Catford defines consonant clusters as “those sequences of consonant that occur initially or finally in syllables. For example both /pl/ and /nt/ are consonant clusters in the word plant, because they occur in one and the same syllable. But we would not call the sequence /p-l/ in stop-light a consonant cluster, because the sequence crosses a syllable boundary”<sup>1</sup>.

David Crystal brings another definition of consonant clusters. He defines them as those sequences of “adjacent sounds, occurring in restricted pattern at the beginning or end of syllables. Initial clusters include [spr-] and [fl-]; final clusters include [-mps] and [-nt]. The notion is also used for consonant letters in the written language (where such clusters are referred to as blends). There is no one-to-one correspondence between clusters in speech and writing: the last letter of fox is a consonant cluster in speech, [ks] and the final sound of [sik] is a consonant cluster in writing, sick.”<sup>2</sup>.

From these definitions, we realize that consonant clusters are a bit complex because they are dependent on the sound. So then, the past tense -ed ending is a consonant and is part of the consonant cluster in words like glimpsed /glimpst/, developed /diveləpt/, handled /haendld/ for the -ed ending is sometimes read /d/ sometimes /t/.

<sup>1</sup> J.C Catford. *Phonetics*. Clarendon Press. 1988. p 207.

<sup>2</sup> Crystal. David. *Dictionary of language and languages*. London: Penguin Books. 1992. p67



## 1.2. Consonant clusters

As stated above, consonant clusters are those combinations of consonant found at the beginning or end of words and syllables. Since the originality of languages lies in that each of them displays a given sound system, languages do not present the same phonemes. Some languages may also have the same phonemes, but without the latter being pronounced in the same way. Some consonants also exist in certain languages and are missing in others and this is a source of difficulty.

Other languages also have different rules relating to syllable structure and not all combinations of phonemes are possible in a language. Not only is the number of consonants that can occur initially and finally in syllables always subject to limitations imposed by the phonological structure of the language, the particular sequences of consonants that can occur in clusters is always limited. In English, for example, there are 22 consonant clusters in initial position. This means that these could be combined quite freely, the total number of clusters of two different consonants would be  $22^2 - 22$ , that is 462. In fact the rules of participation in consonant clusters in English permit only from 36 to 44.

West African languages tend to have fewer vowels than English, and fewer consonants and consonant clusters<sup>1</sup>. Classical Arabic and many varieties of modern colloquial Arabic, for example, admit no initial consonant clusters<sup>2</sup> at all, but allow final clusters of two or three consonants.

<sup>1</sup> Michael Swan and Bernard Smith. *Learner English. A Teacher's Guide to Interferences and Other Problems*. Cambridge: C.U.P. 1987 p187

<sup>2</sup> J.C. Catford. *Phonetics*. Clarendon Press. 1988 p208

On the other hand, Wolof, for example, contrary to English and French permits only four initial clusters [mb, nd, nj, ng] and a very limited number of final consonant clusters mainly composed of **prenasals** and **gemimates**<sup>1</sup>.

In French, we hardly see groups of three or four consonant clusters. A vowel (often [ə]) is intruded as soon as there is a risk of gathering of three consonants<sup>2</sup>.

Examples: la petite fille [la ptit]

une petite fille [yn pətit]

boulangerie [bulāʒri]

appartement [apartəmā]

There are groups of consonants very numerous in spoken language.

[sr] passera

[tn] (nous) tenons (à ce que)

[nl] tu ne le feras pas [nlə ]

[vr] conservera [kɔsɛrvra]

[rr] serrera [sɛrra]

reperrera [repɛrra]

<sup>1</sup> Prenasals are consonant clusters beginning with a nasal consonant like [n, m, ŋ] and gemimates refer to sequences of identical sounds, within one and the same word or morpheme, e.g. [-tt-] [-mm-] in Wolof mottali (to complete) and samme (to take care)

<sup>2</sup> see Henry Adamczewski and Denis Keen Phonétique et Phonologie de l'Anglais Contemporain Paris: Armand Colin, 1973 p120

The syllable structure in Wolof and French may be resumed as follows: if C represents any consonant and V any vowel, the syllable is generally CCVCCV or CVCVCV, i.e. consonant clusters of more than two consonants are hardly found.

Learners will have problems with the consonant clusters that do not match their own pronunciation system. This is the case where the mother tongue has relatively few consonant clusters. The learners here would tend to simplify clusters by intruding vowels, i.e. a vowel is added to the beginning or end of initial and final clusters in order to spread the cluster over more than one syllable or intrude vowels in the sequence of consonants and split them into separate syllables.

If C represents any consonant and V any vowel, the fullest potential syllable may have this structure: CCCVCCCC. Learners then would modify them as follows: vCCC . . . CCCCv, or CvCvC. . . CvCvCvCv, etc. where v represents an inserted vowel. They may also resort to simplifications resulting in consonant reduction, that is to say that some elements of the clusters are not pronounced. In some languages, a syllable always ends in a vowel, or in a restricted number of consonants. The tendency for these learners is then to add a vowel, often /ə/ as a reflex of the mother tongue system.<sup>1</sup>

The book, Learner English<sup>2</sup>, discusses some important aspects of the difficulties and interferences of particular speakers of a mother tongue in relation to English language learning; problems with consonant clusters are

<sup>1</sup> see Paul Tench. Pronunciation Skills. Mc Millan Publishers Ltd. London: 1981 p64

<sup>2</sup> Michael Swan and Bernard Smith. op.cit p187

brought about. English consonant clusters appear to constitute a major source of difficulty in the learners' 'interlanguage'<sup>1</sup>.

While dealing with speakers of West African languages it has been mentioned that 'consonant clusters would cause difficulty especially in final position where some consonants tend to be reduced. Examples: "nest" for next", "knees for needs", "fat for fact", etc. Final clusters such as film, months, asked, helps, etc. cause special problems, and the same sort of difficulty occurs at word juncture such as in "five big towns".' In the case of Wolof speakers, vowel intrusion is very frequent in their production of French consonant clusters, e.g. [palas] for "place", [tarase] for "tracer", [ɛstad] for "stade" etc. where the underlined vowel is intruded.

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<sup>1</sup> The variety of a language produced by non-native learners

## CHAPTER TWO

### II-ENGLISH CONSONANT CLUSTERS

#### II-1-Within words

##### II-1-1-Initial clusters

According to Paul Tench<sup>1</sup>, there are two types of initial clusters in English, a primary set of clusters, and a secondary set that combine only with /j/ before the vowels /u, ʊə, ʊ/. The primary set is given in Table 1.

Table 1

pr	tr	kr	fr	θr	ʃr
br	dr	gr			
pl	tw	kl	fl		
		gl			
bl	dw	kw		θw	sw
		gw			
sp	st	sk			
sm	sn				
spr	str	skr			
spl		skw			

<sup>1</sup> See Paul Tench. Pronunciation Skills. Mc Millan Publishers, Ltd. London: 1981 p 64

The secondary set - the initial clusters with /j/ - consists of any consonant except /ð, w, r, ʃ/ and /ʒ/, followed by /j/. Some combinations are extremely infrequent: /gj-/ is represented by *gules*, *gewgaw*, /θj-/ by *thews*, /zj-/ by *Zeus*; /lj-/ is undergoing change, i.e. pronunciation without /j/ are becoming more and more frequent for *lewd*, *lucid*, *allusions*, etc. This is true also for a number of words with /sj-/, such *suit*, *sewer*.

The English 2 consonant clusters are shown in Table 2.

Table 2<sup>1</sup>

	p	t	k	f	m	n	l	r	w	j	as in
p							pl	pr	(pw)	pj	play, pray, (pueblo), pure
t								tr	tw	{tj}	try, twins, {tune}
k							kl	kr	kw	kj	clay, cry, queen, cure
b							bl	br	{bw}	bj	blue, brew, (Buenos), beauty
d								dr	dw	{dj}	dry, dwell, {due}
g							gl	gr	gw	(gj)	glow, grow, gwen, (gules)
f							fl	fr		fj	fly, fry, few
θ								θr	θw	{θj}	threw, thwack, {thews}
m										mj	music
n										{nj}	new
s	sp	st	sk	sf	sm	sn	sl	sw		{sj}	{suit}
	spy	stay	sky	sphere	smooth	snow	slow	sweet			
ʃ								ʃr			shriek
h									{hw}	{hj}	{why}{hugh}
v										vj	view

In this Table {} indicate a cluster not present in all varieties of English. Thus dental or alveolar consonants are not followed by /j/ in most types of American English. Items with () are rare -/pw / and /bw/, for example, occur in the words *pueblo* and *Buenos Aires*.

<sup>1</sup> J.C. Catford. *Phonetics*. Clarendon Press. 1988 p209

## II-1-1-Description of initial clusters

Since every utterance contains, by definition, at least one syllabic phoneme, the simplest way to describe the phonetic structure of a language is to state which non-syllabic phonemes or groups of non-syllabic phonemes (clusters) appear in the three possible positions: initial, before the first syllabic<sup>1</sup> of utterance; final, after the last syllabic of an utterance and medial, between syllabics.

For convenience, we shall place a number (see appendix N°5) before each phoneme or groups of phonemes that show any peculiarity in its structural behaviour.

Taking first the initial non-syllabics, we find that, at the outset, two phonemes never begin an utterance; there are (1) [ŋ, ʒ].

Six of the non-syllabics that occur in initial position never appear as members of an initial cluster: (2) [v, ŋ, z, tʃ, dʒ, j]. The initial clusters<sup>2</sup> all begin with one of the following non-syllabics: (3) [p, t, k, b, d, f, θ, s, ʃ, h]. If the first consonant of the cluster is (4) [s], it may be followed by one of the set (5) [p, t, k, f, m, n], as in spin, stay, sky, sphere, small, snail. All the initials of group (3) and combination of (4) [s] with (6) [p, t, k] may be followed by one of the set (7) [w, r, l], with the following restrictions. (8) [w] never comes after (9) [p, b, f, ʃ], and never after the combination of (4) [s] with (10) [t]. The initial clusters, then, are illustrated by the words twin, quick, dwell, gwynne, thwart, swim, when, [hwen], squall. (11) [r] never comes after (12) [s, h]. The clusters, therefore, are those which begin the words pray, tray, crow, bray, dray, gray, fray, three, shrink, spray, stray, scratch. (13) [l] never comes after (14) [t, d, θ, ʃ, h], and never after the combination of (4) [s] with (15) [k]. The

<sup>1</sup> Phonological unit consisting of one or more sounds

<sup>2</sup> -Bloomfield. Leonard Language: Twelfth Edition. London: George Allen & Unwin Ltd. 1973 p76

clusters, accordingly, are those which appear in play, clay, blue, flew, slew, split.

By way of summery, we can say that English permits initial clusters of either two or three consonants, as in such words as pray, sky (CCV), spray, split (CCCV).

We will no say much about medial clusters for the simple reason that if we consider the definitions of consonant clusters, we just realize that phonetically we only have initial and final clusters. Therefore, sometimes, the joining-up of syllables allows certain consonant combinations (that are indeed consonant clusters if we take into consideration the notion of syllable.)

Those combinations are very complex and permit different consonant clusters, e.g. words like: exploit, extravagant, import, entry, offshore, ensure with these clusters /-kspl-/, /-kstr-/, /-mp-/, /-ntr-/, /-fʃ-/, /-nʃ-/, etc.

Medial clusters are very important insofar as they can ease pronunciation of complex consonant combinations.

### **II-1-3-Final clusters**

Final clusters are much more complex, numerous and may seem haphazard, but basically they are mirror images of the initial clusters. Again it seems appropriate to divide clusters in final position into two parts; the structurally simple forms and the derived or inflected forms -plurals, possessives, past tense and derived forms with -th.. First of all, we consider the simple forms as in Table3.<sup>1</sup>

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<sup>1</sup> Paul Tench. op cit. p65



Table 3

lp	lt	ltf	lk	lpt	lkt		
lb	ld	ld					
lf	lθ	ls	lf				
lv							
lm	ln	ntf	ŋk	mpt	mps	ŋkt	
mp	nt						
	nd	ns	nd	nst	mf	nθ	nz
ps	ts	dz	ks	kst			
pt			kt				
sp	st	sk					

The structurally complex clusters duplicate and extend the simple clusters. Plurals and possessive morphemes yield clusters with /-s, -z/, past tense morphemes yield clusters with /-t, -d/; and the derivation morphemes yield clusters with /-θ/. Historically this last morpheme accounts for the /-lθ/ clusters too: weal-health, weal-wealth, foul-filth.<sup>1</sup>



<sup>1</sup> Paul Tench, op. cit. p66

The extension the simple, forms by these morphemes is considerable, increasing the lists of two-and-three consonant clusters, and forming the following four-consonant clusters: /-lpts/ (he) sculpts, /-lkts/ (he) mulcts, /-mpts/ (he) prompts, /-mpst/ glimpsed, /-ŋkts/ instincts, /-ksts/ texts, /-lfθs/ twelfths, /-ksθs/ sixths. However, it must be admitted that in rapid colloquial speech, each of these four-consonant clusters is regularly simplified; but in formal speech, they may well be retained. Another feature to note is that as soon as a stop or fricative enters the final clusters, the following members of the clusters will share the voice-tension of that stop or fricative, e.g. /-zd/,

By way of summery, we can say that English permits two, three, or four Final consonant clusters /-lm/, /-kst/, /-mpst/ as in ask, apt (VCC), asked (VCCC), waltzed, texts, angels (CVCCCC).

### **II-2-1-Description of final clusters**

Final clusters<sup>1</sup> are subject to the general rule that the same phoneme never occurs in two adjoining positions: there are no such final groups as [ss] or [tt]. This rule holds good also for initial clusters. [h, j, w] do not occur as final non-syllabics or member of the final clusters. All the remaining non-syllabics occur in both these functions.

English final clusters consist of two, three, or four non-syllabics. One can describe the combinations most simply by saying that each cluster consists of a main final consonant, which may be preceded by a pre-final, which in turn may be preceded by a second pre-final; further, the main final may be followed by a post-final.

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<sup>1</sup> Bloomfield. Leonard. op. cit p77

This gives us six possibilities:

	without post-final	with post-final
main final alone	bet[-t]	bets[-ts]
pre-final plus main final	test[-st]	tests[-sts]
pre-final plus main final	text[-kst]	texts[-ksts]

The consonants, which occur as post-finals, are (16) [t, d, s, z]. In a form like test or text we call [-t] a main final, because there exist forms like tests, texts, in which a further consonant (a post-final) is added, but in a form like wished [wiʃt] we call the [-t] a post-final because the cluster [-ʃt] is not paralleled by any cluster with the addition of a further consonant. We have no such final cluster as, say, [-ʃts]. The occurrence of the post-finals is limited by three important restrictions. The post finals (17)[t, s] are the only ones that occur after the main finals.

(18) [p, t, k, tʃ, f, θ, s, ʃ]; these same post-finals never occur after any other sound; and the post-finals (19) [t, d] are the only ones that occur after the main finals (20) [tʃ, s, z, ʃ, dʒ]. It is worth noticing that set (9) agrees, except for the absence of (21) [h], and that set (18) embraces the physiological classes of affricates and sibilants. These restrictions group the main final into six classes: those in (18) but not in (20) may be followed by [t, s] as [p] in help, helped, helps; those in neither (18) nor (20) may be followed by [d, z], as [b] in grab, grabbed, grabs.

Those in (18) and (20) may be followed only by [t], as [t] in reach, reached. Those in (20) but not in (18) may be followed only by [d], as [d] in urge, urged; [t] in (18) but not in (20), owing to the rule of no doubling may be followed only by [s], as in wait, waits; [d] in neither (18) nor (20) owing to the same rule may be followed only by [z], as in fold, folds.

We turn now to the pre-finals. The main consonants (21) [g, dʒ, ŋ, r] are never accompanied by a pre-final, and the consonants (22) [b, g, tʃ, d, v, ʃ] never occur as pre-finals. The combinations that remain are subject to the following further restrictions. The pre-finals (23) [l, r] do not occur before the main final (24) [z]. Their combinations, accordingly are those which appear in the following examples: harp, barb, heart, hard, hark, march, barge, scarf, carve, health, farce, harsh, arm, barn, help, bulbs, belt, held, milk, filch, bilge, pelf, delve, wealth, else, welsh, elm, kiln. The pre-final (25) [n] occurs only before the main finals (26) [t, d, tʃ, dʒ, θ, s, z], as in ant, sand, pinch, range, month, once, bronze. The pre-final (27) [m] occurs only before the main finals (28) [p, t, f, θ], as in camp, dreamt, nymph; the combination with (29) [θ] occurs only with the second pre-final (11) [r]: warmth. The pre-final (30) [ŋ] occurs only before (31) [k, θ], as in link, length. The pre-final (4) [s] occurs only before [p, t, k], as in wasp, test, ask. Before [t], [s] may be preceded by the second pre-final (15) [k], as in texts. The pre-finals (32) [ð, z] occur only before the main final (27) [m], as in rhythm, chasm. The pre-final (10) [t] occurs only before the main finals (33) [θ, s], as in eighth [ejtθ], ritz (compare with post-final [t] added, the slang ritzed [ritst] 'snubbed'). The combination with the main final (4) [s] occurs also with the second pre-final (11) [r] in quartz.

The pre-final (34) [d] occurs only before (35) [θ, z], as in *width*, *adze*. The pre-finals (36)[p, k] occur only before the main finals (18) [t, s], as in *crypt*, *lapse*, *act*, *tax*. Of those two, the pre-final (15) [k] before the main final (4) [s] occurs also with the second pre-final (30) [ŋ], as in *minx* (compare with a post-final [t] added, the slang *jinxed* [dʒiŋkst] ‘gave bad luck’); the other, [p] occurs with the second pre-final (28) [m]: *glimpse*, *tempt*. The pre-final (37) [f] occurs only before (10) [t], as in *lift*.

## II-2-At word juncture

### II-2-1-English syllable structure

It may seem obvious that sounds occur in words as a sequence *a b c d e f g*, but that is not entirely correct. Instead, sounds are organized into syllables using strictly limited vowel and consonant combinations that differ from language to language. Syllable, in turn, is organized into words. Each word consists of one or more syllables, and each syllable consists of one or more sounds<sup>1</sup>.

The word “syllable” is generally an easy notion for native speakers of a language to understand, although technical definitions are not straightforward. In general a syllable is a phonological unit consisting of one or more sounds. Each syllable has a nucleus, which is usually a vowel (but it can be certain consonants such as [r] and [n]). Syllables are usually smaller than a word and bigger than a single sound, but some single sounds can be syllable and a word (as in ‘a book’).

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<sup>1</sup> See Finnegan, Edward & Besnier, Niko: Language, its structure and use. Harcourt Brace Jovanovitch, Inc. pp76-77

The kinds of sounds that can make up a syllable differ from language to language and strictly limited within each language. If we examine the four words of the following phrase, you will notice that English syllable allows patterns: of consonants and vowels (we use the abbreviations C for consonant and V for vowel as in transcriptions above, we have separated words into syllables with dashes.)

In	a	previous	chapter
in	ə	pri-vi-ə.s	tʃæp-təʳ
VC	V	CCV-CV-VC	CVC-CVC

Other syllable structures can be seen in words like past (CVCC), square (CCCVC), churned (CVCCC), squirts (CCCVCCC) and there are still other possible syllable structures in English. At word juncture, we realize that English allows groups of five and even seven consonant clusters, e.g. nicest screen [-st skr-], glimpsed strips [-mpst str-], including repetitions of the same phoneme (referred to as geminates) as in that time [-tt-] or ten nights [-nn-].

### II-3-Assimilation and elision of consonants<sup>1</sup>

Economy of effort is a universal trait in man and is shown clearly in his speech as it is in every aspect of his behaviour. But if a speaker economises on articulation to such an extent that his hearer misunderstands, then he will adjust his articulation accordingly.

<sup>1</sup> See Paul Tench . op.cit p68

Simplifications are normal in colloquial speech and take a number of forms including assimilation (the variation of a sound), elision (loss of a sound), weak forms and contractions.

First of all, we have assimilation which involves either a change of one phoneme for another, e.g. the /n/ of ten changes to /m/ in ten pence, or the addition of a phoneme, e.g. the /k/ that often appear between /ŋ/ and /θ/ in length. It is particularly important to note how /d/ and /n/ assimilate to the point of articulation of the following consonant. Consider the word good before man, fun, thing, riddance, year, girl, where the /d/ will switch from alveolar to bilabial, then labio-dental, dental, post alveolar, palato-alveolar and velar.

Notice too what usually happens when /t, d, s, z/ proceed /j/; they become /tʃ, dʒ, ʃ, ʒ/. For example, meet you becomes /mitʃu/, did you becomes /didʒu/, this year becomes /ðɪʃjɜː/ and these units becomes /ðiʒjuːnɪts/. Similarly, /s, z/ often become /ʃ, ʒ/. For example, this ship becomes /ðɪʃʃɪp/ and these ships /ðiʒʃɪps/.

Secondly we have elision of consonants. The most important area is the elision of /t/ and /d/ when they occur at the end of word after another consonant, (e.g. exact, post, old, friend). If the immediate following word or morpheme begins with another consonant, the /t/ and /d/ are regularly elided in ordinary informal colloquial speech (which is, of course, what we use most of the time). Consider now the following examples: exactly, postman, old man, friends. In most varieties of English speech, the previously final /t/ and /d/ are lost. The tendency for elision is so strong that if a speaker makes a determined effort to reinsert /t/ and /d/, his pronunciation sounds distinctly odd. Many examples can be cited: next week, best man, world record, kindness etc. However, if the following consonant is /h/, elision does not

usually take place; and if the following consonant is one of /l, w, r, j/, elision is optional. If a nasal or /l/ proceeds /t/, the /t/ is retained but usually in the form of a glottal stop, e.g. can't come, Walt Disney. A similar instance is the loss of /k/ in similar contexts e.g. asked. Another common loss is that of a fricative when two or more fricatives occur together; /θ/ is lost in asthma, /ð/ is lost in clothes brush, either /f/ or /θ/ is lost in fifths, twelfths.

The rule of assimilation and elision vary from language to language and the learner will unconsciously reproduce the rules of his own mother tongue as he tries to speak informal colloquial English<sup>1</sup>.

In French, for example, assimilation involves words like:

absurde [apsyrd]

absolument [apsɔlymɑ̃]

médecin [metsɛ̃]

je te vois [ʃtəvwa]

on se voit [ɔzvwa]

nous sommes tous d'accord [nuʁmtuzdalɔr]<sup>2</sup>

These simplifications are to be practised like this, but this is not a case of slovenly speech, but colloquial speech. Assimilation and elision help fluency ; to insist otherwise will hinder fluency and lead to the practice of items that native speakers themselves have abandoned in colloquial speech.

<sup>1</sup> See Paul Tench, *op.cit* p69

<sup>2</sup> Henry Adamczewski and Denis Keen, Phonétique et Phonologie de l'Anglais Contemporain, Paris: Armand Colin, 1973 p122



## II-4-Review of the previous studies

Very few materials have been published in this field. They are:

We have at first the book, Learner English that is written by Michael Swan and Bernard Smith. It presents a general study of the interferences and other problems encountered by Learners of English of different linguistic backgrounds. On page 185-188, a section is devoted to the problems related to vowels, consonants, consonant clusters etc. At the level of consonant clusters, the errors consist of vowel intrusion and consonant reduction.

Second, Nafissatou Fall wrote an M.A dissertation entitled “Les mots d’Emprunt Français en Wolof: Analyse Phonétique et Sémantique” U.G.B: 1998. In Chapter II of this work and on page 92, a study of the Wolof and French consonant clusters and some errors of pronunciation due to interferences is brought about. Besides, some of these errors are related to consonant clusters.

Third, Ibrahima Diallo wrote another M.A dissertation entitled “Learners Performances in English at the end of Secondary School in Senegal from 1984 to 1994” U.G.B: 1998. The work is conducted in four Senegalese high schools. A chapter is devoted to an error analysis of tests produced by fifteen learners from one Terminale. The analysis is based on individual errors.

Mamadou Dramé wrote also an M.A dissertation in 1998 entitled “Analyse des Erreurs de Prononciation du Français commises par des Locuteurs Américains” U.G.B. In section 2-1 entitled “Présentation des tableaux phonétiques” and in section 2-2 entitled les “grandes differences”, a study of French and English vowels, consonants and consonant clusters is made. In section 3-2-5, errors related to consonant clusters are shown.

The last M.A dissertation is that of Astou Diop entitled “Wolof Borrowings from English: A Phonetic and Semantic Analysis” U.G.B: 1995. In Chapter II of this work, a deep study of Wolof and English sound systems is made. The work also compares both sound systems, especially at the level of their phonemes, word stress and assimilation.

The present work, though it bears some resemblance with these former works, is mainly concerned with English consonant clusters. It differs from these works in that it is not based on simple observation, but aims at verifying the production of English consonant clusters by Wolof learners of English. It is a scientific work that is based on written and oral tests. An error analysis is conducted in order to check their pronunciation of English consonant clusters. So in a nutshell, our work is more complete and is to be considered as a continuation of these previous studies.

**PART TWO: FIELDWORK**

**ANALYSIS OF LEARNERS' PRODUCTION OF  
CONSONANT CLUSTERS**

## **CHAPTER THREE**

### **III-FIELDWORK**

#### **III-1-Population: Sampling**

#### **III-2-Data collection**

##### III-2-1-The database

##### III-2-1-1-The reading passage

##### III-2-1-2-The list of isolated words

##### III-2-1-3-The free speech

#### **III-3-Data analysis**

##### III-3-1-Exploitation of the data

##### III-3-2-The tendencies

#### **III-4-The findings**

##### III-4-1-The results of the investigations

##### III-4-2-Some comments

#### **III-5-The error causes**

## **CONCLUSION**

## **BIBLIOGRAPHY**

## **APPENDICES**

## CHAPTER III

### III- FIELDWORK

This part is based upon three kinds of exercises, which follow a questionnaire submitted to the sample of learners targeted in the work. The questionnaire focuses on the learners' experience in English, their linguistic background, their enthusiasm about the English language, their "état de langue" in English, French and Wolof (see appendix N°1).

A very important piece of information is that the work is exclusively designed for learners whose mother tongue is Wolof.

### III-Population: Sampling

Our informants were the pupils in 'Première L' at Malick Sall high school at Louga, Senegal. The sample consists of fifty (50) learners representing 20% of all pupils in 'Première L'. They have been studying English for six (6) years, some of them seven (7) years. They were supposed to have a level that would permit them to read English without any main difficulty and speak an intelligible interlanguage.

The age bracket among our informants varied from sixteen to seventeen years. 98% of them never learned English in an institution; the same percentage expressed their enthusiasm about the English language. Only one boy sustained speaking one language Wolof. The rest were bilingual, knowing bits of Arabic and Spanish.

About their “état de langue” in English, French and Wolof, seven of them sustained being good at speaking English, nineteen at French and forty-one at Wolof. As for listening and writing, the majority accepted having a level more or less good or bad in both English and French. Besides, a great majority of them recognized having a bad level at writing in Wolof owing to the fact that Wolof is not taught at school.

### **III-2-Data collection**

The exercises consisted of a reading passage, a list of isolated words to be read and a free speech. The data were recorded. The recordings were done without serious troubles. The main obstacle was communicative. Indeed, during interviews, some learners brought very short answers. But grosso modo, it was done with a great collaboration of our informants and their teachers. The tape recorder did not have an influence on them. Each one of them came to read the text, the list of isolated words and finally answered to the questions. The exercises are given in the appendices for a clear understanding and a better appreciation of the analysis.

#### **III-2-1-The database**

##### **III-2-1-1-The reading passage**

The text was relatively short and was about Princess Diana’s death. It was extracted from the magazine ‘Newsweek’. We inserted some words with relevant clusters to check their pronunciation. Besides, we judged that a text like this would rise the interest of our informants. The text was entitled: ‘A deadly accident’ (see appendix N°3).

### **III-2-1-2-The list of isolated words**

They consisted of fifty (50) words. The selected words are commonly used in classrooms, and each word contains a key consonant cluster (see appendix N<sup>o</sup>4).

### **III-2-1-3-The free speech**

It was an interview with our informants in the course of which they answered to three questions about prostitution. With such a topic, we aimed at obtaining collaboration of our informants. The questions are the following:

- Why do girls prostitute themselves?
- What are the consequences of prostitution?
- What would you advise prostitutes to do?

## **III-3-Data analysis**

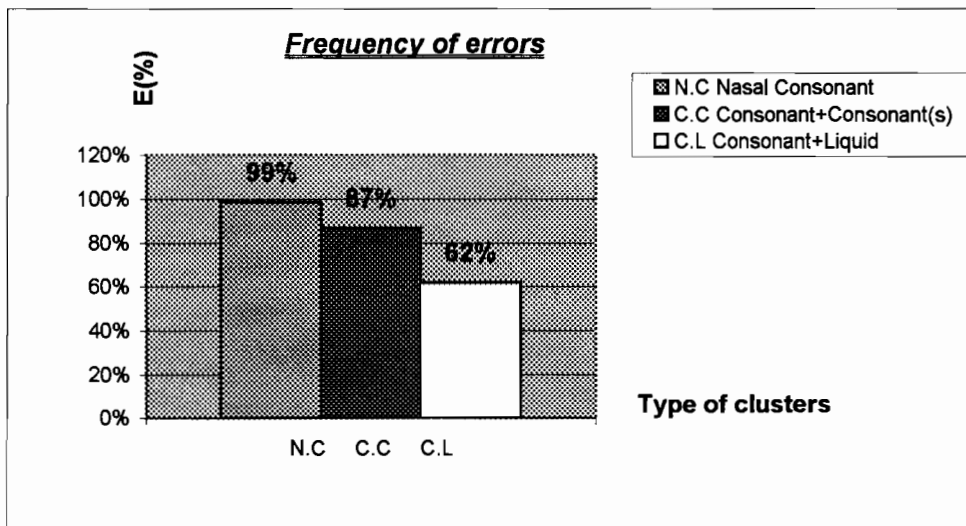
### **III-3-1-Exploitation of the data**

The following tables and diagrams bring a classification of errors according to their frequency

## 1) The reading passage

Table1<sup>1</sup>

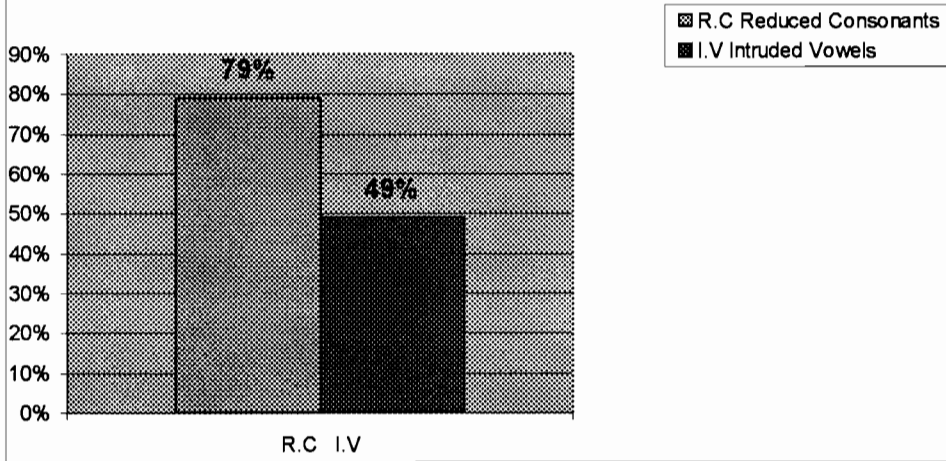
Type of clusters	Words	clusters	E(%)	R.C	E(%)	I.V	E(%)
<b>Nasal +consonants(s) N.C</b>	pencils	/-nlsz/	96%	(z),(lz)	16%	i,ə,e	96%
	against	/-nst/	100%	(t),(st)	100%	e	2%
	instincts	/-ŋkts/	98%	(k),(t),(ts),(kt)	100%		
	months	/-nθs/	100%	(nθ),(θ)	100%		
<b>Consonant +Consonant(s) C.C</b>	texts	/-ksts/	100%	(st),(k),(s)	100%	ð	2%
	journalists	/-sts/	100%	(s)	100%		
	twirled	/tw-/	60%	(w),(t),(tw)	28%	u	36%
<b>Consonants(s) + liquid C.L</b>	blue	/bl-/	56%			ə,u,i	56%
	deadly	/-dl-/	50%	(d),(l),(dl)	38%	ə,i	16%
	shrink	/ʃr-/	80%	(ʃ)(ʃr)(r)	30%	i,u	30%



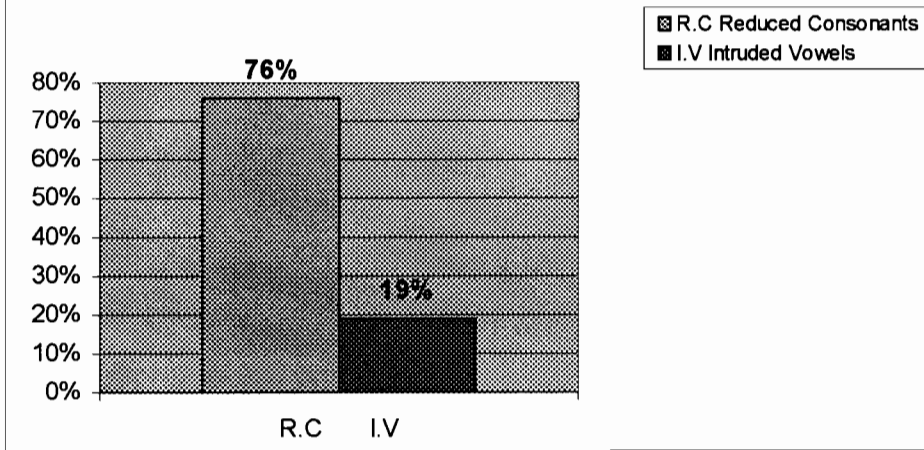
<sup>1</sup> (E%): Error percentage  
R.C : Reduced Consonants  
I.V : Intruded Vowels

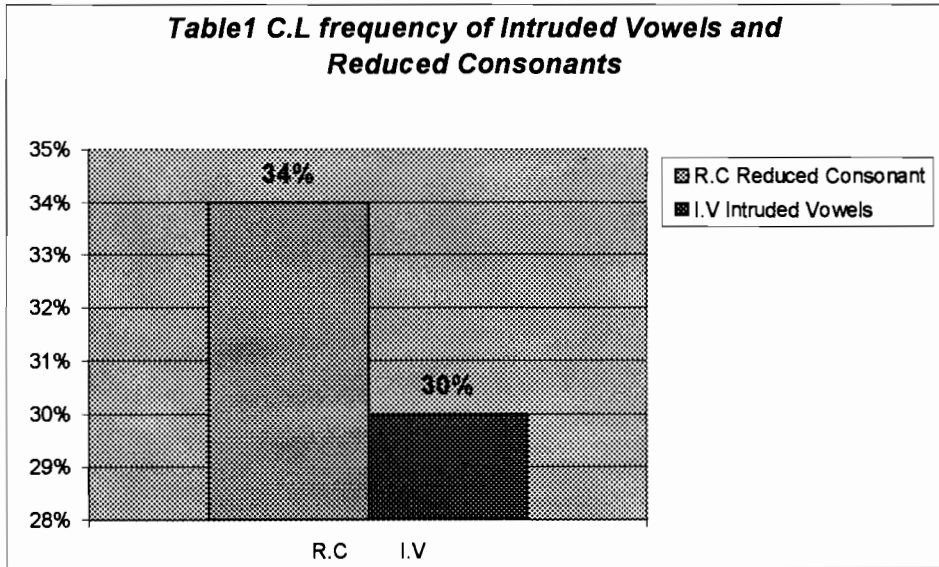


**Table1 N.C Frequency Of Reduced Consonants and intruded Vowels**



**Table1 C.C Frequency Of Intruded Vowels and Reduced Consonants**



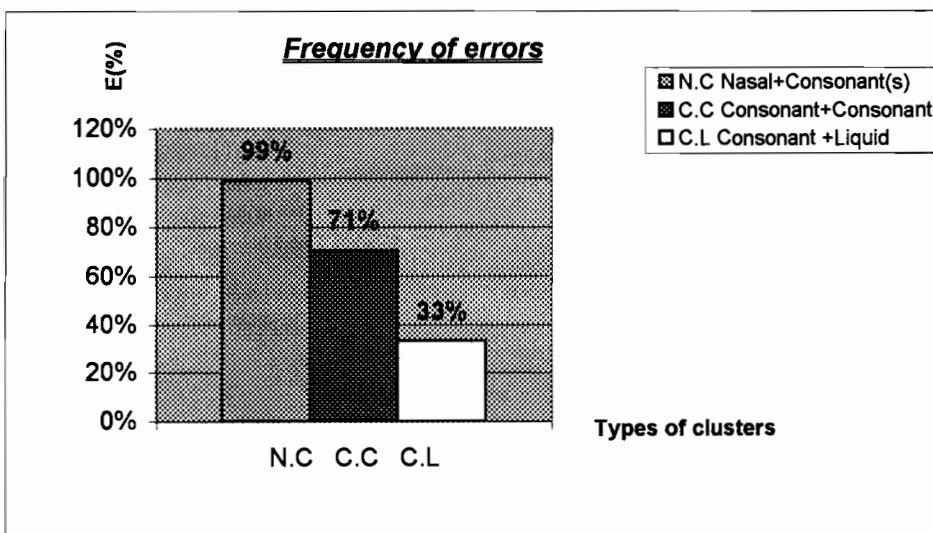


## 2) The list of isolated words

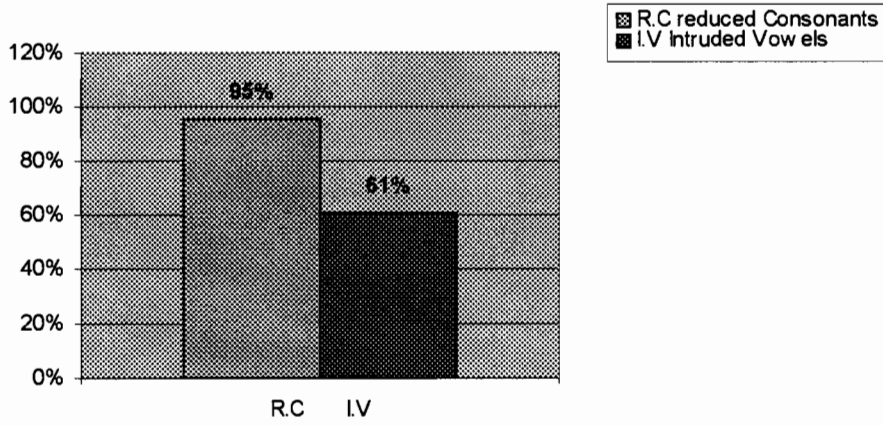
**Table 2**

Types of clusters	words	clusters	E%	R.C	E%	I.V	E%
Nasal Consonant(s) + N.C	glimpsed	/-mpst/	98%	(st),(p),(s),(pst)	96%	i, ə, e	50%
	twinkled	/-ŋkld/	98%	(ŋ),(ld),(k),(d)	98%	i, ə, e	82%
	months	/-nθs/	100%	(θ),(nθ)	100%		
	convents	/-nts/	100%	(t),(s)	100%		
	angels	/-ndlz/	98%	(nd),(z)(d)	98%	ə, e, i	50%
	instincts	/-ŋkts/	100%	(kt),(ts).(t)	100%		
	prompts	/-mpts/	98%	(pt),(p),(s),(ts)	100%		
	pencils	/-nslz/	98%	(z)	80%	i, ə	100%
	sevenths	/-nθs/	100%	(θ)	100%		
	exempts	/-mpts/	100%	(t),(ts),(s)	100%		
	crinkles	/-ŋklz/	100%	(z),(ŋ),(k)	90%	i, ə	96%
	handled	/-ndld/	100%	(d),(dl),i	68%	i, e, ə	100%
	development	/-nt/	96%	(nt),(t)	100%		
	against	/-nst/	100%	(t),(st)	100%	e	2%
	eleventh drop	/-nθ dr-/	98%	(θ)	100%	ə	6%
Consonant + consonant (s)	sixths	/-ksθs/	100%	(θ)	100%	i, ə	8%
	sport	/sp-/	4%			e	4%
	developed	/-pt/	96%	(t)	74%	i	76%
	split	/spl-/	40%	(s)(p)	80%	i, e	8%
	films	/-lms/	34%	(s)	90%	ə	4%
	sculpts	/-lpts/	98%	(p),(t),(ts),(s)	98%	i, ə, u	14%
	texts	/-ksts/	100%	(ts),(s)	100%		
	twelfths	/-lfθs/	98%	(f),(fθ),(θ)	100%	ə	4%

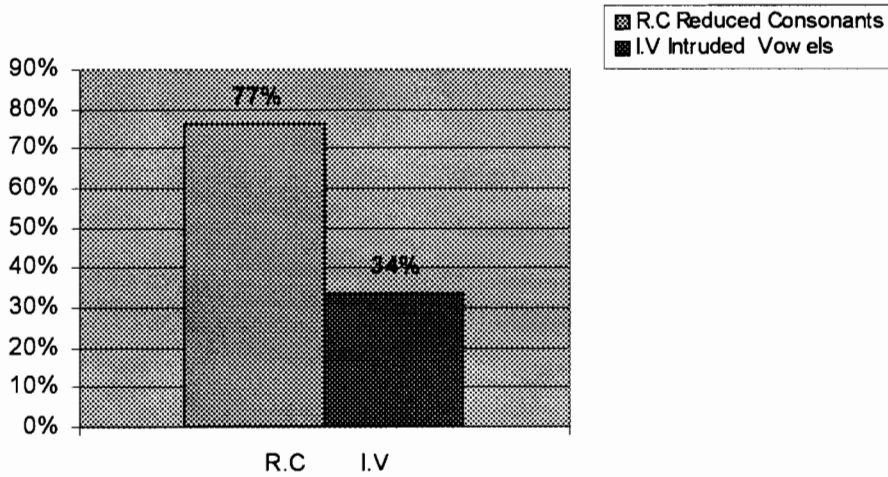
	extravagant	/-kstr-/	24%	(k)	98%	ð	2%
	mulcts	/-lks/	98%	(ts),(s),(k)	100%		
	stressed	/str-/	38%	(s)	22%	e, i	18%
	journalists	/-sts/	100%	(s)	100%		
	reached	/-tʃt/	100%	(tʃ),(t)	100%	i, ð	80%
	crippled	/-pld/	100%	(d),(ld),(l)	52%	i, ð, e	70%
	exploit	/-kspl-/	26%	(k),(s),(ks)	22%	ð	4%
	sniffed	/sn-/	36%	(s) (n)	6%	i, ð, e	30%
	fares throw	/-st θr-/	100%	(t),(θ)	100%		
	squash	/skw-/	78%	(w),(s)	60%	i, e, ð, o	18%
	buzzed	/-zd/	68%	(d)	28%	i, e	62%
	killed	/-ld/	48%			i	100%
	derived	/-vd/	68%			i	100%
	biggest stream	/-st str-/	68%	(t),(t-s)			
	world's best screen	/-d z -st skr-/	100%	(t),(t-s)		ð, i	4%
<b>Consonant + Liquid C.L</b>	placed	/pl-/	8%			ð, i	4%
	trend	/tr-/	18%			ð	100%
	dreaming	/dr-/	32%			i	100%
	greedy	/gr-/	18%			i	100%
	shrink	/ʃr-/	52%	(ʃ),(r),(ʃr)	42%	i, ð, e	26%
	shrine	/ʃr-/	46%	(ʃ),(ʃr),(r)	58%	i, ð	26%
	cleans	/kl-/	12%			i	100%
	thrills	/θr/	100%	(θ)	100%	i	4%
	bluest	/bl-/	22%	(b)	2%	u, ð	20%
	crashed	/-ʃt/	38%			ð, i	26%
	slipped	/sl-/	42%			i, e	44%
	practised	/pr-/	12%	(r)	2%		10%



**table2 N.C Frequency of intruded vowels and reduced consonants**



**Table2 C.C frequency of Intruded Vowels and Reduced Consonants**



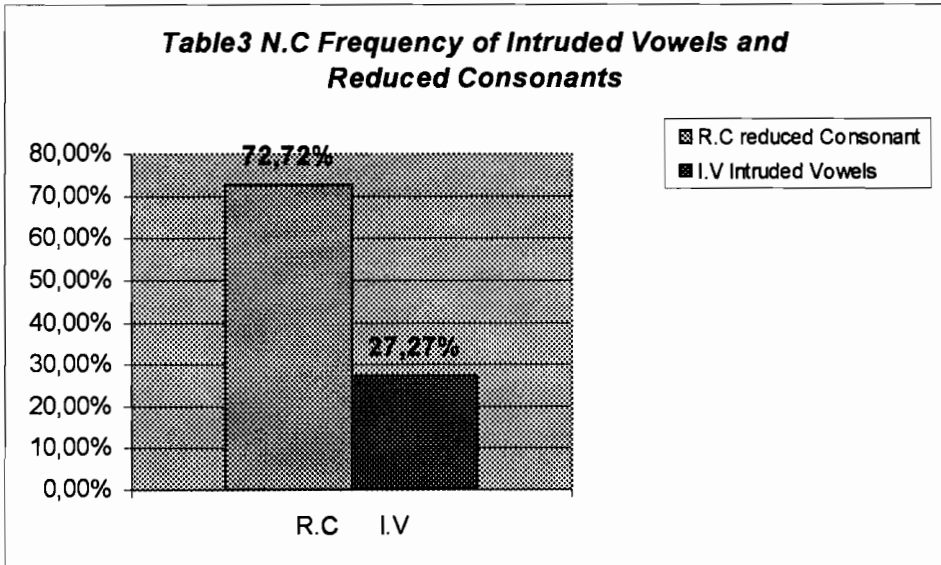
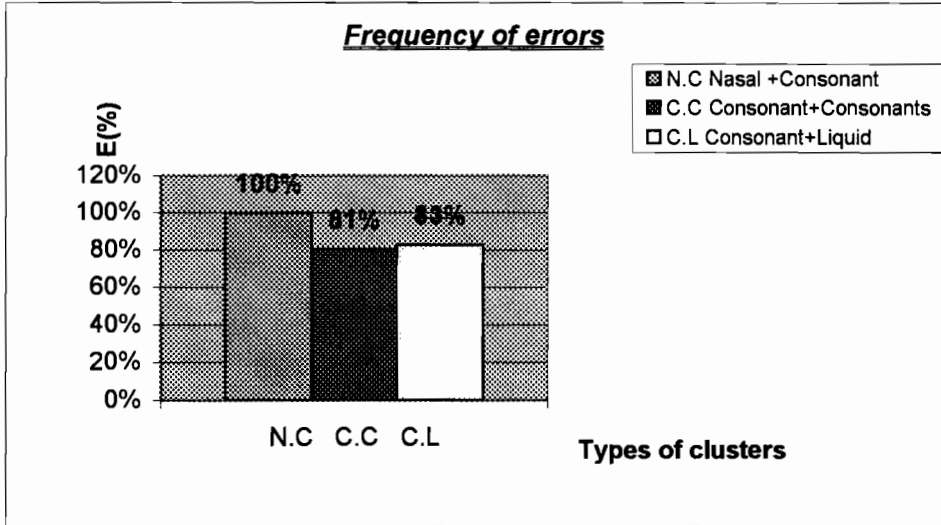
### 3) The free speech

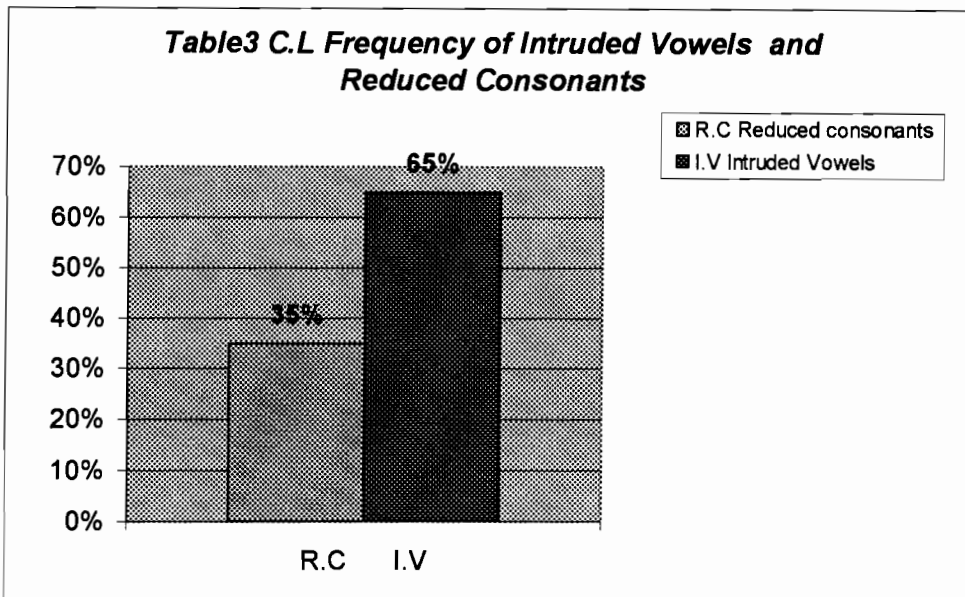
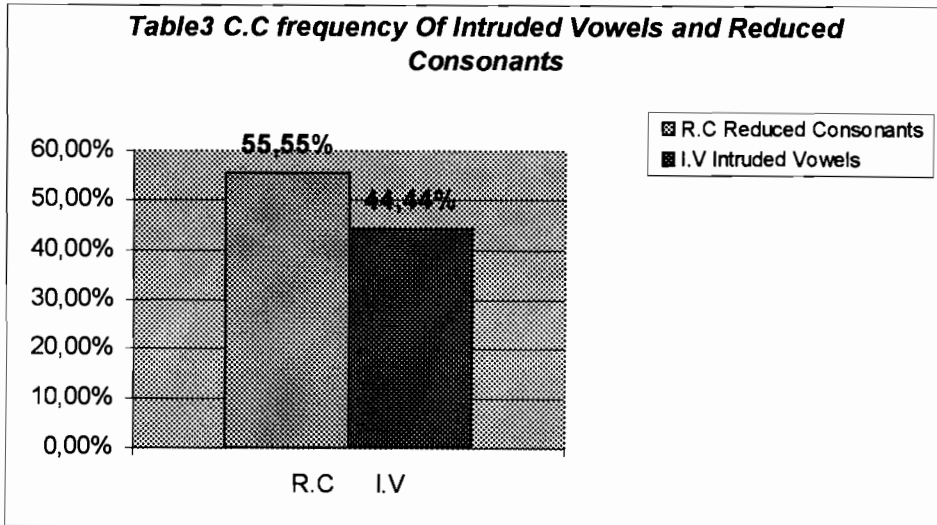
**Table 3**

Type of clusters	words	clusters	E(%)	R.C	E%	I.V	E%
Nasal + Consonant(s) N.C	parents(15)	/-nts/	100%	(t),(ts)	72.72	∅	27.27
	example(1)	/-pl/	100%				
	moment(1)	/-nt/	100%	(t)			
	unemployment(1)	/-mpl- nt /	100%	(t)			
	country(2)	/-ntr-/	100%				
	development(1)	/-pm-/	100%	(t) (nt)			
	government(1)	/-nt/	100%	(t)			
Consonant + Consonant(s) C.C	help(1)	/-lp/	100%		55.55	∅	44.44
	health(1)	/-lθ/	100%	(θ)			
	pregnancy(1)	/-gn-/	100%	(n) (g)			
	stop(2)	/st-/	6%				
	mostly(1)	/-stl-/	100%				
	catch(1)	/-tʃ/	100%				
	must(2)	/-st/	100%	(s)			
	bad development(1)	/-d d-/	100%				
	girls(1)	/-lz/	100%				
	practise(1)	/-kt-/	40%	(k)			
	advantage(1)	/-dv-/	100%	(d)			
prostitutes(2)	/-st-/	20%	(st)				
Consonant +Liquid C.L	prostitution(10)	/pr-/	20%	(s) (t)	35	∅	65
	prostitutes(10)	/pr-/	10%	(s)			
	bring(1)	/br-/	100%				
	problems(1)	/pr- bl-/	100%	(b)			
	multiple(1)	/-pl-/	100%				
	people(1)	/-pl-/	100%				
	exclude(1)	/-kskl-/	100%				
	travel(1)	/tr-/	100%				
	provoke(1)	/pr-/	100%				
	practice(1)	/pr-/	80%				
afraid(1)	/-fr-/	100%					

In this table, numbers in parenthesis represent the number of time the word has been mispronounced.







These tables aim at classifying the errors related to the production of consonants clusters in the reading passage, the list of isolated words and the free speech. Each table is supported by a diagram that is drawn to illustrate the frequency of errors according to the type of consonant cluster (N.C, C.C, C.L) and each type of cluster presents a diagram showing the frequency of

error types, either intruded vowels or reduced consonants (I.V, R.C). In other words, we deliver a panoramic table and diagram before drawing diagrams of synthesis to show the frequency of error types.

-Two angles of analysis have been taken before the results:

-How tremendous is the problem with English consonant clusters?

-What are the main tendencies?

An interpretation of the data gives the following information: for the reading passage and the list of isolated words, more than 70% of our informants had serious problems because they could not pronounce satisfactorily the consonant clusters, especially group of three and four consonant clusters. Errors consisted in either vowel intrusion or consonant reduction. This, of course, implies that English native speakers would hardly understand them.

### **III-3-2-The tendencies**

As it has been stated above, the production of English consonant clusters has come out to be problematic for the great majority of our Wolof students, especially groups of three and four consonants. While pronouncing groups of four consonant clusters, the tendency is for them to simplify the cluster by dropping the two last consonants of the cluster, e.g. in clusters like /-lkts/, /mpts/, /-mpst/, /-lfθs/, /-lpts/, /-kld/ and /-ndld/, the dropping of final /ts/, /st/, /s/, /ld/ is a blatant fact.



-More than 70% of students could not distinguish /ʃ/ and /s/, /θ/ and /s/. /s/ almost always replaces /ʃ/ and /θ/, resulting in the pronunciation of /ʃr/, /θr/ and /-nθ/ like /sr/ and /-ns/.

-The dropping or reduction of /t/ and /s/ is also noted. Indeed, the pronunciation of the word 'against' has shown that 100% of learners dropped the final /t/, saying /ðgeins/ instead of /ðgeinst/. 100% either pronounced /kɔnvɛns/ or /kɔnvent/, /teks/, /dʒ nəlist/ for the words convents, texts and journalists.

-Some learners also replace English /nk/ by the sound /ng/. /ng/ is a consonant cluster that exists in Wolof and not in English. /ng/ is represented by the Wolof noun 'ngelaw' (wind). The same can be said for English /nd/ which is also pronounced /nd/. /nd/ is represented by Wolof 'ndeye' (mother). In other words, they say /twɪŋgəl/, /kriŋngəl/, /haendəld/ for English words twinkled, crinkles and handled.

-The reduction of the final /t/ and the initial /s/ in the production of the words best screen, biggest stream is to be understood as a case of assimilation; best screen /-st skr-/ is produced /-s (t) (s) kr-/ and biggest stream /-st str-/ , /-s (t) (s) tr-/ where consonants in parenthesis are reduced.

-Intrusion of the vowel /ɒ/ is noted for the word problems /problems/. Our informants say /pɒrɒblem/ or /pɒrɒlem/ (std n°25, std n°8).

It is worth noting that most of the time the vowel that comes just after the consonant cluster is the intruded vowel, e.g. country /kʌntri/, blue /blu/, exclude /eksklud/, mostly /mɔstli/ are pronounced /kʌntɪri/, /bɛlu/, /ɪkskɛludid/, /mɔstɪli/ where the underlined vowel is intruded.

-Initial /s/ in clusters like /str, sn, sl, spl, sp/ shows an intrusion of vowel before the /s/ or between /s/ and the following consonant or consonants, saying, for example, /espɔt/ (std n°43), /estresid/, /esnifid/, /eskwoʃ/, /eslipid/ (std n°3), /istrisid/ (std n°23), /estop/ (std n°29), /esnifid/ (std n°5), /sinifid/ (std n°1) etc. for sport, stressed, sniffed, squashed, slipped, stop.

-Another tendency is to pronounce the past tense -ed ending as /id/ almost every time saying, for example, /stresid/, /diraivid/, /diveləpid/ for stressed /strest/, derived /diraivd/, developed /diveləpt/.

### **III-4- The findings**

We give here the results of investigations and some comments on them.

#### **III-4-1 The results of the investigations**

- (1) Reduction of consonants
- (2) Intrusion of vowels
- (3) Some cases of assimilation are also noted

#### **III-4-2-Some comments**

If c represents any consonant and v any vowel and the syllable pattern is cvccc or ccvccc, the syllable is either separated into separate syllables with an intrusion of vowel or the syllable is cut resulting in the reduction of some consonants, e.g. cvccc is turned into cvcvvc or cvccvc and ccvccc into vccvcc or ccvccc etc...where the underlined v is intruded. The type of consonant C.L seems to be the least difficult of the three types.

### III.5. Error causes

-What accounts for an error?

-Ignorance is one of the most noticeable cause. By ignorance we want to say that learners are unaware of the mechanisms of sound production in English. Lack of correction and failure of teachers to insist on pronunciation is the source of major problems. Indeed, teachers acknowledged their stubborn insistence on grammar and vocabulary. Moreover, they accepted that their pupils do not like to speak English during the course, about 10% of them will answer to a question by producing more than two sentences.

Another very important factor that is worth mentioning is the fact that phonology and phonetics are not included in the program. Pupils are introduced to the pronunciation of English phonemes at the entrance of 'sixième' and that's all.

We propose that courses should be directed to articulatory phonetics in particular, to the English sound system in general. Teaching of pronunciation has to be practical and should be practised like gymnastics.

-Some errors are intralingual, that is to say, the English sound system is difficult to understand, e.g. the past tense -ed ending is sometimes read /id/, sometimes /d/ or /t/ depending, of course, on the final consonant followed by -ed. The same can be said with the plural formation. Words in plural are pronounced with final /-s/. The final /-s/ is sometimes read /s/, sometimes /z/. Thus overgeneralization is the result of all these complex plural and past tense endings. In other words, students do not make a distinction between the pronunciation of ed in words like: killed, stressed, invited.

The -ed ending is almost always pronounced /id/, and words like pencils, crinkles, texts are pronounced with a final /s/.

These errors may also be due to the ignorance of rule restrictions. In other words, the errors may be the result of incomplete curricula.

-Sometimes also, the pupils' errors are caused by their proper refusal to pronounce some consonants of the clusters.

-Besides, others errors are intralingual with the interference of French and Wolof, that is to say that sometimes sounds are produced like in French and Wolof, e.g. English /-ent/ is pronounced like French /aen/ and English consonant clusters /nd/ and /nk/ are pronounced like in Wolof. /nd/ and /ng/ are Wolof sounds and do not exist in English. They are consonant clusters in Wolof, /nd/ and /ng/ are found in Wolof nouns such as 'ndeye' (mother) and 'ngelaw' (wind). /nd/ and /ng/ substitute English /nd/ and /nk/ in words like handled, crinkles and twinkled.

The problem with consonant clusters is not usually a problem of perception although, admittedly, occasionally it is, if it is, then ear-training has to be prescribed. Consonant clusters often need extra attention, the problem with them is usually a problem of articulation. A learner may be able to produce the elements of the cluster satisfactorily, but the combination of the elements in close sequence may prove to be problematical. Demonstration is usually sufficient, but where it is not, the teacher must resort to association and /or explanation. For instance, the initial /sp-, sk-, st-/ clusters are often preceded by a short vowel in many learners' misarticulation.

If their attention is drawn to this most can produce the clusters correctly when they are conscious of their occurrence. Imitation of /sp ...sp / is followed by practice of /sp-/ in isolated words, and then those words are incorporated into something worth saying. If the problem persists, then the teacher might explain as follows: ‘start off by saying /s/ and prolong it, ‘sss.../. Then add /p/ to the prolonged /s/, as /ssssp / and say that a few times. Try to shorten then initial /s/ to /sssp /, /ssp / and to /sp /.’ The teacher should then substitute other vowels for /ə/ and build up actual words and phrases. The learner’s problem is that by placing a vowel before /sp-/, he is producing an extra syllable. ‘By starting off with /s/ and lengthening it, the learner’s extra syllable is realized as a long ‘syllabic’ /s/, which can be concentrated to a short ‘nonsyllabic’ /s/.

Other learners have difficulty with the sequence stop + /l, r, w/; they tend to add a vowel between the stop and the following consonant. If straightforward demonstration fails to be effective, the teacher must resort to explanation again. Stop + /l/ can be practised like this: ‘start off with /l/ and consciously keep your tongue in the /l/. Prolong the /l/ as /lll.../. Then prolong it again and close and open your lips, thus adding a series of /p/ or /b/; the series of /p/ or /b/ and the prolonged /l/ are being articulated simultaneously as [lllll...].

pp

Then, when /p/ or /b/ is articulated, hold it a little longer and allow the /l/ to emerge gradually; repeat this and try to reduce the length of the hold of /p/ or /b/, to achieve /pl-/ and /bl-/. The same procedure is possible with initial /k / and /g/.

While /l/ is being prolonged, the learner can raise and lower the back of the tongue to form and release the velar stops. And the same procedure can be adopted with the sequence stop + /r/ position. Prolong it to /rrrr/ and add a series of /p/, as [pp] and continue as above!

/tr/ and /dr/ are a little more awkward, as it must be remembered that /t/ and /d/ in this context do not retain their alveolar point of articulation.

Nevertheless, exactly the same procedure can be adopted, but whereas in /pr-, br-, kr-, gr-/ the /r/ element can remain fixed, in /tr-/ and /dr-/ the tongue blade in fact moves from /r/ to make an actual (post-alveolar) total closure for the /t/ and /d/ elements. Thus the real sequence is more like [rtrrtrr].... The learner need to know this, of course; but it is as well if the teacher does know what is going on. A combination of the technique of establishing /sp/ and the technique of establishing /pl/ would be necessary with persistent problems with /spl-/ and similarly, of course, with other three consonant initial clusters.

In final consonant, similar problems may arise too. Again, if possible, the teacher should rely on straightforward demonstration, but he will need to resort to explanation if that does not work. One problem is the intrusion of a vowel between /l/ and the following consonant (s). 'say /l/ and prolong it, as /lll./; gradually close the lips while the /l/ is still being produced; open the lips but keep the /l/ ' (the effect is to produce something like [lllll... ]:

pp

the /l/ after a voiceless fortis consonant will be devoiced !). The same can be done for other consonants expect those articulated with the tip and blade of

A more serious problem is a sequence of fricatives. It is noticeable that while a learner may have established an excellent command of the pronunciation of English, his pronunciation of months may let him down, because he omits the /s/ (usually) or the /θ/. Native English speakers often reduce sequences of fricatives at the end of words or across syllable boundaries as, for example, for *fifths* and *asthma* saying /fiθs/ and /aesma/, but they do not reduce months to /mʌnθ/ or /mʌns/. This is pure articulatory gymnastics. The movement of the tongue in the sequence /-θs/ has to be demonstrated; the only explanation is an obvious one! ‘Hold the tongue in the /θ/ position and prolong the /θ/ and then, suddenly and sharply, draw the tongue in and upwards! The /-θ/ has then to be reinserted into the word months, and other such words.’<sup>1</sup>

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<sup>1</sup> see Paul Tench, *op.cit* pp66-68

## CONCLUSION

The results of the investigations among these Wolof speakers bear out the general hypothesis according to which English consonant clusters do pose major problems. **Intrusion of vowels** and **reduction of consonants** characterize the errors.

Sometimes, we have noticed cases of **assimilation** in the learners' pronunciation of consonant clusters

The analysis of errors have shown some main trends consisting in the interference of Wolof and French, the loss of /t/ and /s/ at the end of certain words, the pronunciation of the –ed ending as it appears and the loss of the two last consonants of groups of four consonant clusters.

If consonant clusters are not well articulated, they can constitute a hindrance to the transmission of the message. Indeed, there is no way for a native English speaker to understand a construction such as “**he mulcts**” if the speaker says “**he muls**” or “**he mulects**”. So then particular attention is to be paid on consonant clusters not only because of their complexity but also because of their relevance. Consonant clusters, as we said, need extra attention, the problem with them is often a problem of articulation.

Learners should try to transcend the problems related to consonant clusters by practising pronunciation as gymnastics. Of course, for that, teachers themselves have to help them by making corrections and also by teaching the phonetics and phonology of English.

It has become clear at the end of this work that errors are expressive of how pronunciation is neglected and is therefore to be practised.



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## **APPENDICES**

## APPENDIX N°1

### QUESTIONNAIRE

1. Prénom(s) et Nom
2. Age
3. Sexe
4. Langue maternelle
5. Nombre d'années d'apprentissage de l'anglais
6. Avez-vous appris l'anglais dans une autre institution ?
7. Aimez-vous l'anglais ? Pourquoi ?
8. Quelles sont les langues que vous parlez ?

#### 9. Niveau de langue en anglais

	Bon	A. Bien	Mauvais
Ecouter			
Ecrire			
Parler			

#### 10. Niveau de langue en français

	Bon	A. Bien	Mauvais
Ecouter			
Ecrire			
Parler			

#### 11. Niveau de langue en wolof

	Bon	A. Bien	Mauvais
Ecouter			
Ecrire			
Parler			

## APPENDIX N°2

### The reference paper

#### PRENOM(s) & NOM

##### 1-The reading passage

deadly /-dl-/	journalists /-sts/	shrink /f r-/
blue /bl-/	pencils /-nslz/	against /-nst/
twirled /tw-/	texts /-ksts/	instincts /-ŋkts/
		months /-nθs/

##### 3-The free speech

##### 2-The list of isolated words

sixths	/-ksθs/	Exempts	/-mpts/
glimpsed	/-mpst/	Extravagant	/-kstr-/
placed	/pl-/	Mulcts	/-lks/
twinkled	/tw-/	Stressed	/str-/
trend	/tr-/	journalists	/-sts/
dreaming	/dr-/	reached	/-t f t/
greedy	/gr-/	crinkles	/-ŋklz/
sport	/sp-/	crippled	/-pld/
months	/-nθs/	bluest	/bl-/
shrink	/f r-/	exploit	/-kspl-/
shrine	/f r-/	sniffed	/sn-/
developed	/-pt/	fares throw	/-st θr/
split	/spl-/	squash	/skw-/
films	/-lms/	crashed	/kr-/
sculpts	/-lpts/	handled	/-ndld/
cleans	/kl-/	buzzed	/-zd/
convents	/-nts/	development	/-nt/
angels	/-ndlz/	killed	/-ld/
texts	/-ksts/	against	/-nst/
instincts	/-ŋkts/	derived	/-vd/
twelfths	/-lfθs/	biggest stream	/-st str-/
prompts	/-mpts/	world's best screen	/-d z -st str-/
pencils	/-nslz/	eleventh drop	/-nθ dr-/
sevenths	/-n s/	slipped	/sl-pt/
thrills	/θr-/	practised	/pr-/

## APPENDIX 3

### The reading passage

#### *A deadly accident*

*Blue police lights twirled silently in the post-midnight place de l'Alma. The sirens had left with injured Princess of Wales. A small crowd of journalists with their pencils were writing many texts reporting the event. They were all waiting for the crashed car to be dragged out. The Princess and her friend had been chased by Paparazzi. The friend was dead, so was the driver of the car. But it looked like the Princess might be more or less ok. The crowd was ordered to shrink away from the car. I was leaning against a wall and my instincts were saying to me that she could not survive. As I watched the car brought out of the tunnel, I could notice that the engine was smashed back almost as far as the front seats. It was hard to believe anybody could have survived that. At 4 am, I heard the doctor say: "we could not revive her." It was months since I hadn't seen so deadly an accident.*

## APPENDIX N°4

### THE LIST OF ISOLATED WORDS

1.	sixths	26.	exempts
2.	glimpsed	27.	extravagant
3.	placed	28.	mulcts
4.	twinkled	29.	stressed
5.	trend	30.	journalists
6.	dreaming	31.	reached
7.	greedy	32.	crinkles
8.	sport	33.	crippled
9.	months	34.	bluest
10.	shrink	35.	exploit
11.	shrine	36.	sniffed
12.	developed	37.	fares throw
13.	split	38.	squash
14.	films	39.	crashed
15.	sculpts	40.	handled
16.	cleans	41.	buzzed
17.	convents	42.	development
18.	angels	43.	killed
19.	texts	44.	against
20.	instincts	45.	derived
21.	twelfths	46.	biggest stream
22.	prompts	47.	world's best screen
23.	pencils	48.	eleventh drop
24.	sevenths	49.	slipped
25.	thrills	50.	practised



## APPENDIX N°5

### Number reference

(1)[ ɲ,ʒ].	(13) [ l ]	(25) [n]
(2) [v, , z, tʃ, d , j].	(14) [t, d, ɒ, f,h]	(26) [t, d , tʃ, d , ɒ , s, z]
(3) [p, t, k, b, d, f, ɒ, s, ʃ, h].	(15)[k].	(27) [m]
(4)[s]	(16) [ t, d, s, z].	(28) [p, t, f,θ]
(5)[p, t, k, f, m, n]	(17)[ t, s]	(29) [θ]
(6) [p, t, k]	(18)[p, t, k, tʃ, f, ɒ, s, ʃ]	(30) [ŋ]
(7) [w, r, l ]	(19)[t, d]	(31) [k, θ]
(8)[w]	(20) [tʃ, s, z, ʃ, d ]	(32) <del>z</del> z]
(9) [p, b,f,ʃ]	(21)[h]	(33) [θ, s]
(10)[t].	(22)[b, g, tʃ ,d, v, ʃ]	(34) [d]
(11)[r]	(23) [ l, r]	(35) [θ, z]
(12)[s,h].	(24) [z].	(36)[p, k]
		(37) [f]

